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THE

AMERICAN BEE JOURNAL.

ESTABLISHED BY SAMUEL WAGNER.

EDITED BY

G. S. WAGNER AND W. F. CLARKE.

"GO, LOOK TO THY BEES."—Tusser.

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VOL. VIII. **JULY, 1872.** No. 1.

[For the American Bee Journal.]

Unedited Letters of Huber.

JANUARY 20, 1801.

SIR:—I have this moment received your letter of the 10th. I will not reply to it now, but wait until after I have received your promised letter. I admire your skill in manipulations, and your sagacity; which gives me hope that the history of the bee may be pursued further. Study constantly the book of nature, it will teach you more than all the romances that have been written on the bee. You understand, Sir, that this little memoir is only for your eye.* I have counted upon your indulgence in writing it, and do not wish it to go out of your hands, as I hope some day to publish these observations. I have the honor to be yours very devotedly—

F. HUBER.

P. S.—I see by your letter that you have anticipated the doing away with the bottom piece of the frames of the leaf hive. It was only after long experience that I felt the inconvenience of full frames. The cross piece that I put in the middle of the frames should be narrower than the upright pieces. It may be an inch in breadth and a quarter of an inch in thickness.

To compel the bees to build their combs parallel to the small side of the hive, it is not sufficient to put a piece of comb in one of the frames; success is more surely attained by cutting a clean old comb in pieces, six inches long by one or two broad. Fasten the first piece firmly in the top of the third frame; the second in the sixth; the third in the ninth frame, &c.; continue in this order if the hive have more than ten frames. You must also put several pieces of comb in the hives such I sent you a model of. (Translated by Dr. Ehrick Parmley.)

The first edition of Huber's work on bees (*Nouvelles observations sur les abeilles*) was published in 1792. It has plates which show very clearly the construction of his hive. The tops and bottoms of his frames (called by him *leaves*) were about an inch and a quarter wide, and were dovetailed to uprights of the same width, thus making them close fitting, so that when put together they formed the hive, the ends being closed with glass darkened by shutters.

The second edition, edited by his son, was published in 1820, and although it contains much new matter, especially on the architecture of bees, it uses the same cuts of the hive with the first edition. But for these letters which have so unexpectedly come to the knowledge of the bee-world, we should never have known that Huber made or even contemplated any changes in the construction of his hives. In the June No. of the Journal, his reasons for dispensing with the hinging of his frames were given, and now we find him discarding the bottom pieces of his frames. To those who have no experience of the slow advances usually made in inventions, it may appear almost unaccountable that Huber did not, from the very start, see how greatly the close fitting bottom strips impeded the manipulation of his frames. As no smoke was used in pacifying the bees, nothing but the indomitable courage and patience of a Burnens was equal to the task of managing such a hive.*

The method employed by Huber of fastening his guide combs by small pegs, was far inferior to the subsequent device of securing them by melted wax, or a composition of melted rosin and bees-wax.

The Abbe Della Rocco, whose work on bees in three volumes (*Traité complet sur les abeilles*) was published in 1790, used at first methods still ruder than those of Huber. His recommending the placing of a sharp angled edge on the under side of his bars would seem to be an anticipation, in the date of publishment at least, of the device of the celebrated English surgeon, John Hunters, who in a memoir read in 1792 before the London Royal Philosophical Society, advised the use of a salient angle or bevelled edge, to induce bees to build their combs in any desired direction.

L. L. LANGSTROTH.

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* This letter was at the close of the memoir we are about to present. Hamet.

* In his preface, Huber thus speaks of his assistant: "It is impossible to form a just idea of the patience and skill with which Burnens has carried out the experiments, which I am about to describe. He has often watched some of the working bees of our hives, which we had reason to think fertile, for the space of twenty-four hours, without distraction, and, without taking rest or food, in order to surprise them at the moment when they laid their eggs."

Profuse Blossoming of the Locusts.

On the last day of April, 1871, a very severe frost so injured the common locust (*Robinia Pseudacacia*), that it blossomed very sparsely in southern Ohio. This year it has blossomed very profusely, and with suitable weather would have afforded a large yield of honey. Cool, wet and windy weather has, however, made it of very small service to the bees. In 1861 some of my strongest stocks gathered 50 pounds from this source. L. L. L.

◆

Color of Italian Queens.

As few of our readers have access to our article on this subject, published originally in the *Rural New-Yorker*, we reprint it with some additional remarks.

THE BEEKEEPER.

On the Color of Italian Queen Bees.

Eds. Rural New-Yorker :—It is a fact well known to breeders of Italian bees, that the color of the queens raised from a pure mother is far more variable than that of the workers. Some of the queen progeny of females brought from the districts in Italy where none but the pure race are found, have abdomens of a brilliant yellow, the tip alone being of a black or brownish color ; others have only one or two yellow rings, while others again are even darker than common queens.

Various theories have been advanced to account for these facts. Dzierzon and other Germans are of the opinion that none of the Italian bees are absolutely pure, but that all have a *taint* or *dash* of black blood, which can only be got rid of by a long course of careful breeding. After ten years of assiduous labor, he does not claim to have entirely overcome this taint, but thinks he has purer bees than can be found in Italy, and that in ten years more he will be able to breed out all traces of the black blood.

Some attribute the tendency to sport in color to a *mysterious* influence exerted upon the queen larvæ by the hybrid or black nurses by which they are often reared. Mr. Kirby believes that their larvæ are *fed* with the *semen* of black or hybrid drones, and in this way obtain a taint of the black blood ! — a theory which must be rejected, not merely because it appears contrary to all analogy, but because it is directly contrary to facts. The same tendency to sport has been noticed in districts where no common bees are found ; and the queen larvæ of black bees, when entrusted to Italian workers, are not found to have any traces of the Italian blood. Moreover, those breeders who persist in rearing their queens in colonies of black or hybrid bees, are now, after an experience of four seasons, able to secure as large a proportion of beautiful queens, as when they first began to practice—a result which could not be obtained, if, according to Mr. Kirby's theory, they had been getting further and further from the pure blood.

I shall communicate to your readers some facts which seem to me to throw considerable light upon this perplexing subject, if they do not fully account for all its difficulties.

In May, 1862, I reared a number of very beautiful queens from a brilliantly colored Italian mother, and for some time all her progeny were of this type. After a while some of her queens were small and poorly colored. I now began to suspect that *the condition of the colonies in which the queens are reared might have a decided effect upon their color, as well as their size,* and was the more confirmed in this view when I subsequently obtained from the larvæ of the same mother, reared in the same colonies, few but handsome queens. The first lot were raised when the nuclei, or small colonies to which the Italian brood was given, *were vigorously getting both honey and pollen ;* the inferior ones were reared when forage was so *scarce* that the nuclei had to be fed. Later in the season when forage was abundant, the young queens were nearly all of the beautiful type ; while later still, when the colonies had to be fed again, the color and often the size of the queens again became indifferent.

A year ago, last spring, I suggested to Prof. J. P. Kirtland, of Cleveland, that I believed the color of the Italian queens depended very much on the condition of the colonies in which they were reared ; and that small and discouraged nuclei, *out of heart*, produced a largely disproportionate number of poor queens. The year before he bred his queens in very small nuclei, and was perplexed to find so many of them of an inferior quality. Using, by my advice, a box holding nearly three times as many combs and bees as the one he had been using previously, and breeding his queens when forage was abundant, he obtained last summer the most gratifying results. In a letter adressed to me, he says that nearly all the queens he raised were of a good color, while two other persons, who reared queens in small nuclei, from the same mother, had many poorly colored queens.

My experience this season, is thus far the same with that of last year — leading me to believe that I have discovered an important law upon this subject, and that queens require, for their perfect development in size and *color*, to be fed with all the royal jelly they can possibly consume. In queen cells, reared in large colonies during the swarming season, a large accumulation of the jelly is often found after the queen is hatched ; while in those reared in small or discouraged colonies, there is seldom found any excess of it. This season I have examined, in swarming colonies, a number of uncommonly large queen cells, and in some of them have found nearly half an inch of jelly at the base of the cell. Soon after the queens creep out from such cells, this jelly may often be found of the color and consistence of a rich quince jelly. It is very seldom that any jelly is found in the cells of queens reared in small colonies, after these queens have emerged.

As small colonies frequently attempt to rear a number of queens entirely disproportional to the number reared in large colonies, it must often happen that some of those queens are scantily fed, and therefore imperfectly developed. I have not, however, been able to discover that queens of extra size and beauty are more prolific, or that they produce a handsomer progeny, than smaller and darker ones bred from the same mother. L. L. LANGSTROTH.

Oxford, Butler Co., Ohio, July 4, 1863.

A few years after writing the above article, we made the experiments referred to in the May No., page 263, showing how the color of the brightest young queens can be changed by withdrawing them from the care of the bees. About the same time we had, in the month of August, a large number of queens hatch, for which we had no immediate use, and it occurred to us that we might preserve them for future use by putting them with a few bees into the small boxes used for sending off queens. The boxes were set in a cool place, each one labelled with the character of its queen for color. When we examined them, after about ten days' confinement, we were surprised to find that their beauty had sadly degenerated. From these and other facts, we learned that to be certain of retaining the color of queens after they hatch, they ought, unless in the hottest weather, to be kept in colonies large enough to secure good animal heat.

It may seem unaccountable that while the color of the young workers remain the same, that of queens should be so easily changed, but such are the facts. The deterioration in color from unfavorable conditions must not be confounded with that which often occurs in queens supposed by the inexperienced when first hatched, to be very beautiful, but which become darker under *any* circumstances. The expert breeder seldom fails, on seeing a just hatched queen, to decide what her type of color will be if she is left in charge of a good colony, and to make the proper allowance for the seeming deterioration which almost invariably precedes her fertilization. After they begin to lay, the color of Italian queens is no more subject to change than that of the workers, showing only the ordinary effects of age. The color of the most brilliant queens seeming gradually to become duller as they grow older. L. L. L.

[For the American Bee Journal.]

Extraordinary instance of Sagacity in Bees.

The facts which we are about to relate, are the most interesting of all the special bee wonders which have come under our own observation. We should hardly venture to give them to the readers of the Journal, if we did not feel it to be a sacred duty for every observer to give to the world any such facts, however seemingly incredible, confident that a fact ("*factum*") in nature is a thing *done* by the All-Wise Creator, and that in due time its verity will be made apparent to all.

In the year 1864, we conceived the idea that a very strong colony, queenless and without brood from which to supply their loss, might perhaps by having only a few worker eggs or larvæ given to them, be induced to rear queens of extra size and beauty. To such a stock, we gave a piece of comb, with suitable brood; about half an inch wide and three inches long. Examining it a few days after, we found a dozen or more queen cells begun, and with the head of a pin, removed the queen larvæ from all of them but four, and left none in any of the other cells. When those cells were all capped, we thought it would be economy to set the strong stock to work upon a second lot. As we had put the first piece of comb into a place cut out for it between one of the uprights of the frame and the comb, we put the second into a similar place on the other side of the same comb. Lifting out the combs a fews days after to note progress, we were surprised to find not a single royal cell begun on this last inserted piece, and not a single larvæ in any of its cells. Looking at the piece first put in, to our amazement we found all the royal cells from which the tenants had been extracted, occupied afresh! and the cells much more advanced than at the time we destroyed their first occupants. These bees were evidently determined not to lose the labor they had bestowed on the first set of cells, and had removed to them the larvæ from the worker cells on the opposite side! The queen, by a law of her nature depositing her eggs in the proper cells, the bees have no necessity or inclination ordinarily to disturb them; and it is an exceptional occurrence for them ever to do it.

Let those who can find in all the operations of this wonderful insect in which Aristotle could see "something divine," nothing but what they call a blind unreasoning instinct, account if they can, for this unusual but wise adaptation of special means to ends which it was impossible for them to foresee.

L. L. LANGSTROTH.

[For the American Bee Journal.]

Dronings, No. 2.

1. A careful study of Mr. Grimms' article in January number, on "Rearing artificial queens, and their value," leads me to ask: Have we sufficiently reflected on the importance of having a number of pure *drone laying* Italian queens in our apiaries? Would not our main object be more speedily attained in this way than by restricting ourselves to fertile queens? Fill the air as he did in April with thousands of pure Italian drones, and if we have any pure queens in the apiary we almost ensure the preservation of purity, but on the other hand if we leave this matter to chance we need not expect anything but hybrids. I do not forget the Dzierzon theory, and therefore do not hold out the hope than an apiary can be Italianized in one season; but I am sure that the object will be sooner reached if one works with both hands as it were.

2. Mr. W. J. Davis does good service in counselling a more careful and systematic culling of our hives. We are too greedy as a general thing—too anxious to multiply stocks—to save suspicious hives. Now, in my humble judgment, it is worse than lost time to be feeding weak stocks. Double them, trible them, and *then* feed, if you

please, for you will have some chance of compensation for your time and trouble And then about foul-brood, don't waste your time smoking it with sulphur, or weary yourself in vain by walking over to the "thread-factory" to dip the frames in hyposulphates and chlorides, and then indulge the false, perhaps fatal hope that the foul thing is done for, but treat them as every wise farmer treats a sheep-killing dog, or a glandered horse,—crush, burn—*utterly destroy*—and then you may have some hope that you may have exorcised the fell spirit; but tamper or temporize with it, and the chances are as 100 to 1 that the whole body *apistic* will soon be hopelessly and ineradicably tainted. *Apropos:* May not those addled eggs (of which Leuckart writes so observantly) furnish in their putrid embryos, the seeds of death instead of the germ of life? May not this be, after all, the fountain of foul-brood?

3. I wish I could feel the flush of the prophetic enthusiasm which already hears the hum of the "coming bee;" but I fear we have to pass through "many varieties of untried beeing" before that avator arrives. Nature is too jealous of her glorious handy-work to yield at once to "idle dreams" and empirical exchanges. As Tennyson sings,

> "So careful of the type she seems,
> So careless of the single life,"

that many long years of systematic and scientific efforts must be made with an energy and perseverance that countless failures cannot daunt before we can even hope for that "fixity" which shall assure us (as orator Phillips might say, if he were of our craft) that we have at last obtained the full and perfect bee which shall exhibit in one glow of *banded* beauty the loveliness of Italy and the fecundity of America! (Very fine, isn't it?)

4. Coming down to practical matters, I wish to say a few more words about the best form of receptacles for surplus honey. I have already spoken of the English glasses. As these may be rejected on account of cost, let me call attention to the principle of Mr. Colvin's honey chambers. These chambers are (as some of the readers of the Journal doubtless know) nothing but boxes of the same size as the hive below, with seven frames somewhat wider, and each frame containing two movable sections. When these are filled with honey they can be easily removed, the wooden frame protects the honey (about two pounds in each section), and by judicious packing in boxes made specially they can be transported unharmed for any distance. These sections can be made of any size and placed in the lower as well as in the upper hive, vertically, I should advise, so as to avoid too many beginnings of combs. The reduced size, say seven by eight, of the combs would make them more salable, whilst the cost of renewal would be slight.

5. Are we going to "give it up so" about that substantial testimonial to our real king-bee (not H. A.), the venerable and well deserving Langstroth? Are we so ungrateful that we can forget the inestimable service he has done to our cause? can we forget that out of a mere pastime he has made a science? That by his skill and observation he has given a profession, and brought profit to thousands? Shall we, above all, by our lukewarmness strengthen the hands of his enemies who are seeking to embitter the short remnant of his days, and would, if they could, hound him to his grave. Don't tell me that he got up in open convention and begged that nothing more might be done. Of course he did! and anybody with a tithe of his modesty would have done the same thing. And even if it were right to stop them. it seems eminently right to begin again now — his veracity, his honor, his fair name which he values above all things else, are assailed by the foul-brood of our community, and we owe it to ourselves not less than to him, that we should show the world we love and honor him, and how we despise and scorn his traducers. Come, my brethren, let us warm up our hearts to a movable frame, and prepare a solid, substantial testimonial for Mr. Langstroth, that shall in some measure compensate him. Come!

[For the American Bee Journal.]

Basswood.

MR. EDITOR. Thinking that a report of our proceedings for the past season of 1871 may be of interest to your readers, we herewith send it. We started in spring with 28 swarms of Italian bees, part of them hybrid. We have increased them to 76, chiefly by artificial swarming, with from 25 to 35 pounds of honey in each hive to winter in.

Our honey product stands as follows:

White clover,	extracted	350 lbs.
Basswood,	"	1650 "
Mixed and buckwheat,	"	656 "
Box honey,		300 "

The extracted honey we sent to Philadelphia. Our bees did not do much on white clover, but when basswood came in bloom (July 15th), the bees kept us busy emptying out honey. We were fairly swimming in honey for about two weeks. We never saw bees gather honey faster than they did from basswood blossoms. Good swarms would fill their hives in two days when they had empty comb.

Now we see the necessity of urging the bee-keepers to cultivate the basswood. There is a great quantity of small basswood trees in the woods in this section which we can get to transplant. Had it not been for basswood, we would not have got any profit from our bees.

We have built us a bee house, 12 by 16 feet, with walls of saw dust, 11 inches thick on the four sides, and 8 inches thick on the floor and overhead, with two ventilators through the floor, 5 inches square, and one in the ceiling, 6 inches in diameter.

We have 84 swarms in the house now, and there are hardly any dead bees under the hive, compared to those out of doors. We bought some bees last fall, and are wintering some out of doors, and some in the bee-house, so that we can see which way of wintering is the best.

When the thermometer was 10° below zero out doors, in the bee-house it was not below freezing, and when it was 50° out of doors, the thermometer in the bee-house rose to 37°. It ranges from 32° to 37° with the ventilators open, giving an even temperature all the time.

It seems that the rapid strides that the bee-keepers of this country are making with our improved bees (Italians) and improved system of management, and the use of the honey extractor, would not give old-foggy beekeepers half a chance with their old whims and prejudices about bees.

This section of the country is a good section for bees, and we mean to improve it. We have our willow, and elm, and soft maple in the spring, which keep the bees busy. Next comes dandelion, apple blossoms, white clover, and best of all is basswood, and our fall crop is buckwheat. The bees usually gather enough to winter on, so that we have all our basswood and clover honey pure again.

West Groton, N. Y. COGGSHALL BROS.

[For the American Bee Journal.]

The Improved Hive.

As Mr. Nesbit has made public, in the February number of the Bee Journal, what he considers as objections to my style of bee hive, I desire to reply to his article, so far as to state that every one of the features he regards as objectionable, were thought of and duly considered by me before the hive was made; and also to show *why* they are not objectionable. Having used the Langstroth and other patent hives many years, and made other styles of my own, I do not set forth the claims of my present hive without any show of reason.

Mr. Nesbit agrees with me as to the capacity needed for breeding and storing winter supplies, and then asks:

"Why does he want to go so far astray from *the most successful* apiarians, making his cheap hive almost double the proper capacity?"

Answer: *Of course* the extra capacity is for storing surplus honey, either to be taken out by the extractor, or in the comb If desired in the comb, it can be obtained much faster in the main hive than in boxes or top frames.

His next objection is, difficulty in lifting out the frames

Reply: The difficulty is purely imaginary. By removing the division board, any frame can easily be lifted; and if the hive is full of combs and bees, the division board is not needed, but its space at the top filled up with strips of wood. He represents my frame as 15¾ by 19¼ inches. This is a mistake, probably an oversight, caused by haste. The frames, inside measure, are 15 by 11; and I find that in lifting and turning the full frames, the combs are far less liable to break out than full combs in the Langstroth frames—they being so long that there is great weight of honey and brood between the ends; while the cross bars in my frame obviate that difficulty.

I desire in this connection to allude to two special advantages gained by close fitting tops, namely, that in opening the hive to remove frames, light is admitted only in one place at a time, namely, where the frame is taken out. The closed tops also prevent the bees from rushing out except where the frame is lifted, and they may easily be driven back by smoke; while, with open tops, they rush out and cover the whole top of the hive.

It is true, my ox is "only a twenty-five cent one;" but I believe bees will winter better in Tennessee, or any other State, in frames fifteen inches deep, than in those only ten.

Mr. Nesbit now mentions the capacity again, but admits that it can be controlled by the division board, and claims that the same is true of the Langstroth, Triumph and other hives. I ask, why is the large capacity of my hive an objection, then? How about the forty-inch Triumph? Measured in the same way, Mr. Nesbit measures mine, it contains, in the body of the hive alone, to say nothing of the upper chamber, 4788 inches.

The objection I have to the shape of the Langstroth frame, is, that if you adjust, by the division board, to the capacity of a small swarm, you give them a space long and narrow, like the hall of a house, running from front to rear; and it is not at all suited to the needs of the cluster. But with a deep and short frame, running crosswise, you may give three or four frames in the front end of the hive, and the bees have their natural heat concentrated where they need it.

I stand at the side of the hive to open it, and find no difficulty. The tops of the frames are close fitting, but *not*, as he says, "consequently *one and a half* inches wider." Mr. Nesbit ought to know that one and a half inches from center to center of brood combs, is just one-eighth of an inch too much. The native bees by instinct build their brood combs exactly one inch and three-eighths of an inch from center to center. I have never observed whether the Italians allow more space, but suppose they do not.

As to placing the frame in the extractor, may not the top of the frame project beyond the wire support, and thus the comb rest on it? It does so in my extractor, and thus the "sweet job" has never come. But how about the Triumph frames, which are close fitting on three sides?

Now the CROSS bar objection, that it is placing *wood* where *brood* is needed. Reply: The cross bar is *not* "in the center of his frames," and the brood is all below the cross bar, as there is abundance of space there. But if the cross bar were left out of my frame, the comb would not be as liable to break as in the Langstroth frame, for the reason that the long way of the comb in my hive is vertical, and consequently fastened to the frame on both of the long sides of one entire end; whereas in the Langstroth frame it is fastened only on one of the long sides.

Mr. Nesbit now asks: "How does Mr. Condit propose to ventilate his mammoth hive?"

Reply: There is abundant ventilation provided by the two end entrances, together with the inch fly holes in the center of each end. An air space can easily be provided over the tops of the frames by resting the corner on cleats, so as to raise it an inch or two. And if it is desired for further protection, make the sides double-walled, with an air space; it will not interfere with the essential features of the hive. But I have found no difficulty with heat.

With the best of feeling, &c.,
W. C. CONDIT.
Howard Springs, Tenn., Feb., 1872.

* * *

[From The Mail.]

Beekeeping.

Bees well deserve to take rank among the live stock of the farm, yet it is a rare thing in this country to see an apiary of any sort or size; while in Britain a place would hardly be considered properly stocked without at least a few hives. With the exception of wintering, it is as easy to keep bees here as in the old country, and quite as profitable. Nor is the difficulty of wintering by any means insurmountable, if the nature and habits of bees are studied and accommodated.

All parts of the country produce honey-yielding flowers, and in some localities such flowers are very abundant. Where white clover, basswood trees and buckwheat are plentiful, you have a perfect paradise for bees, and a vast storehouse for honey. Probably there is no locality where bees may not be kept with advantage; while there can be no doubt that, in some places, they would, for the expense and trouble involved, be the most profitable stock a farmer could keep. A fair estimate of the amount of honey that annually goes to waste for want of bees to gather it, would be positively startling. There are probably two hundred thousand occupants of land, from a small holding of an acre or two to full-sized farms, in the province of Ontario, and if each of these raised but fifty pounds of honey per annum, it would add a million dollars to the aggregate value of our provincial products. A single hive of bees, well-managed, may be counted on to yield fifty pounds of honey every year. Indeed, many beekeepers now-a-days would scout that as a very small yield. Single colonies have produced from four to ten times that quantity in a single year. Still, an average of fifty pounds is far beyond what ordinary beekeepers obtain, simply for want of knowledge and skill. In no department of rural affairs has greater progress been made of late years than in beekeeping, though but few comparatively have kept pace with the onward march of things in agricultnre.

We supposed just now that every occupier of land, from an acre to five hundred acres, kept a single hive of bees. But why should he not keep half-a-dozen or a score? And why should not every person possessed of a garden, however small, have one or more bee-hives in it? We have known bees kept profitably on the roofs of buildings in cities. At present, and for some time to come, there is no danger of overstocking the country, while it is undeniable that enormous waste is going on through neglect of this branch of rural industry.

Fear of being stung is probably the great hindrance to beekeeping becoming more general. A bee-sting is no joke, it must be acknowledged. It is a rather more serious affair than a mosquito bite. But there is far less danger of being stung than most people imagine. The common idea, whenever a bee is seen, is that it is very hazardous to be near it. Many think every bee they meet with is intent on stinging them if they can. But the reverse of this is the fact. "The little busy bee" has other and better business on hand than to be stinging people, and rarely if ever, does this without provocation of some sort. If struck at, as it too often is, it will surely retaliate. If interfered with in any way, and particularly if irritated, squeezed, or crushed, it is sure to sting. That good Bible rule, "study to be quiet and to mind your own business," is especially to be observed when among bees. In all operations that expose one to bee-stings, there are simple precautions by taking which all danger may be avoided. A few puffs of smoke from a bunch of burning rags, a pan of chips, or a bit of rotten wood, will usually quiet a colony of bees, so that it can be handled with impunity. A veil of some sort, and a pair of sheepskin gloves, will completely guard an operator from the much-dreaded stilleto of the little honey gatherer.

We shall return to this subject ere long. Meanwhile, in addition to the advice to all and sundry to *keep bees*, we beg to add a few very needful counsels.

1. Do not go headlong nor wholesale into this or any other branch of rural industry. Be content with small beginnings, and take time to gather experience. Commence with one stock of bees, and before you buy even one, get some recent treatise on beekeeping, and "post" yourself, at least in regard to the outlines of apiarian science.

2. Begin with a movable frame hive of some sort. Bees have been kept advantageously, and may be still, in straw or common box hives; but to attain the best results, a movable frame hive is necessary. This kind of hive admits of access to the bees, control over them, and from one season's observations in such a hive more may be learnt about bees than by keeping them twenty years in straw or box hives. Such a hive as now recommended, can easily be obtained from some of our provincial apiarians, such as Thomas of Brooklin, Mitchell of St. Mary's, Losee of Cobourg, Nicolle of Lindsay, &c. A single stock in such a hive will cost about ten dollars, inclusive of patent right, and surely this is not an investment, to begin with, that need frighten anybody.

3. Do not expect sudden and wonderful profits, nor be discouraged by reverses. There is no speculation in beekeeping, any more than in any other branch of moral economy. But, after some years' experience, we firmly believe there are few directions in which labor and money can be judiciously expended with more satisfactory returns than this. Here, however, as elsewhere, diligence, care, energy, and perseverance are essential to success.

Instinct in Bees.

We give below various extracts from a recent work by Prof. Chadbourne on Instinct.

"In the bee and wasp and hornet, we have the instrument for defence, the poisonous secretion, and the instinct to render them effective. But in the honey-bee, we have much more than these provisions for defence. Its instinct leads it to store honey for use in winter. We pass now the complicated but special apparatus that enables the bee to gather the honey, to consider the conditions that enable her to store it. After being gorged with honey, she secretes scales of wax under the wings of the body. This substance essential to the economy of the bee-hive, is not produced by any work of instinct, but by a peculiar function of the body. These scales of wax the bee softens, undoubtedly, by another peculiar secretion, and then fashions them into a cell that has challenged the admiration of the world.

Let us trace this process through. There is an instinct for gathering honey and, answering to it, an instrument just fitted for drawing it up from the nectaries of flowers. There is also a sack for holding it and for producing certain changes in it. There is an instinct for storing this honey and a substance secreted that can be moulded into cells to hold it. There are instruments given for using the substance to the best possible advantage, and instinct to guide in the best use of both instruments and substance.

Instinct comes in the proper place to link all these agencies together. Let a single link be wanting and all other parts of the chain are useless as a means of preserving the species. And complicated as this whole process is, it is only a part of a connected series of functional and instinctive adjustments, absolutely essential to honey-bee life, as the species now exist.

* * * * *

But we may now come to consider certain social animals that cannot exist, except as communities. There is, in some species, such difference in structure and function, and instinct in individuals of the same communities, that there is a division of labor marked out, and made necessary by the very nature of these individuals. The peculiarities found in some species that make the organization of the community most efficient, are destructive to isolated individual life.

Of such animals, the honey-bee is a good example, and the best known. We have in this species, the queen-mother, the drones or males, and the workers; in the latter of which there is no power of reproduction. Without the queen-mother there could be no continuance of the species, as she alone produces all the eggs for the swarming hive.

The queen and the drone, it would seem, would alone be sufficient to secure the continuance of the species. But not so; for they do not even collect honey for themselves, to say nothing of their numerous progeny. To complete the organization of the hive, there must be another class, the workers, which shall collect food and do all the work of building for themselves, the queen and young. The conditions for an organized community are now complete. The great mass of individuals in the hive, gain their reputation for industry by working for the common good,—for queen and drone and young, —as well as for themselves.

And to this complicated organization, the instincts of each individual are adjusted, so that each performs its part, as each organ of the body performs its office or each official would perform his part in a perfectly organized kingdom.

* * * * *

Mr. Darwin thinks the wonderful instinct of the honey-bee, by which it builds cells that he acknowledges, could not be improved upon, might be accounted for in this way: The making of wax takes a great deal of honey; and so it would come to pass that those swarms of bees which build with the least wax, would have most honey left for winter, and so be most likely to live. The best builders would in this way be preserved, while all the poor builders would in time die off.

Here it will be observed that the theory does not go back far enough to account for the whole case. At most, it simply offers an explanation of the preservation of those swarms made up of the best builders. But we want to know *how the bee became a builder at all?* And how the instinct to build cells and the function of secreting wax fitted for the work began together? And how the honey-bee got along before it had either the function or the instinct, both of which now seem essential to its very existence? Then we have also to observe that it is the neuter bees that secrete the wax and build the cells; and since the neuter bees are sterile, the characteristics they possess and the skill they acquire, cannot be transmitted. All the bees that build cells and gather honey, have descended thousands of years, at least, from parents that never did anything of the kind.

Now this, Mr. Darwin would probably say was a case of corelation. That is, it is true the parents do not do these things, but these powers of the neuters are so corelated to the needs of the community that the whole species become good builders by natural selection, because these swarms alone are preserved where such neuters are produced as get along with little wax and consequently with little loss of honey. He makes his explanation of the existence of the instinct that constructs hexagonal cells, and turns on the fact that the bees must live over winter.

But let us consider the work of the wasps in the light of this theory. They do not use up honey in making their cells, and they do not live over the winter, so that natural selection has no chance to preserve the best builders through any such means as might be urged in the case of the honey-bee. The wasps perish every fall, excepting a few fertile females that desert the nest and live in some hiding place, as we have before explained, to commence the new colonies the next year; and yet several species of wasps and hornets build six sided cells, like the honey-bee.

There is nothing that aids at all, in the selection theory, even as Mr. Darwin has attempted to apply it to the honey-bee. Both of the means through which he attempts to show that natural selection acts in saving skilful builders—the saving of honey in making cells of the best pattern, and the necessity of the honey so saved, for winter use—are here wanting; and yet the wasps are as skilful mathematicians as though the existence of the species depended upon an angle of the cell.

The plain truth is, we have bees and wasps building in many different ways. Each method is connected with a peculiar structure and a whole train of instincts."

[For Wagner's American Bee Journal.]

Successful Destruction.

As I have achieved a remarkable success in reducing the number of my swarms from about fifty to two in a single season, I will give as nearly as I can the means by which it was accomplished. In the spring of 1870, I had eight rather weak swarms, which I increased that season to twenty-five, making the last swarm the last of August. Of course they were weak, and were reduced to sixteen by death. With these sixteen I commenced the spring of 1871, determined not to continue making swarms so late that they would not have time to strengthen up for winter. So I stopped multiplying about five weeks earlier than the previous year, making eighteen swarms in July, closing up the 21st. These of course could strengthen upon buckwheat and fall flowers. But the drought dried up the sources, and no honey was obtained after about July 12th. Within about fifty rods of the apiary was an extensive cider mill, where the bees perished in large numbers and where they obtained what is considered by some a fertile source of dysentery, cider.

So I had about fifty swarms, all weak except one which had combs running crosswise, and consequently had no frames taken out. For some reason, I hardly know now whether through stupidity, want of time or carelessness, I did not feed them till quite late. In this condition, weak in bees and stores, with cider and honey unsealed, they were left on their summer stands until December 10th, when after a couple of weeks of very severe weather, thermometer as low as 10 degrees below zero, they were put in the cellar. For fear the treatment already received would not be sufficient to demolish them, the majority of them were left piled up in the cellar without any ventilation. February 11th, I took out five which flew a very little and I put them back again. February 22d was a little warmer and I took them all out finding twenty-three alive. They flew somewhat and I left them out. Soon after a cold storm came on them with snow a foot deep, and by the 1st of April three were left, one with frames running crosswise apparently in good condition, and two very weak, which I have to-day commenced to unite, finding it too slow work to build up.

Now, I think this is a case of successful destruction, still if I had to do it over again, I am not sure but I could do better. I think I could kill the other three.

For the benefit of any one who has not had experience, I will give the following points to be kept in view:

Divide your hives constantly to their utmost limit, so as to keep *all* weak, *all the time*, keep them weak in stores as well as bees, and if you feed at all let it be very late in the season.

Let them stay on their summer stands until winter has fairly commenced, then take them in whilst they are frozen and bring them out again in time to have two or three weeks of winter weather.

If you can think of some other stupid thing to do, such as moving them about after they commence to fly, setting honey near the hives to induce robbing, &c., it will be an addition to the above. It will be some help toward fulfilling these conditions, if you have so much else to do that you can seldom see your bees.

C. C. MILLER.

Marengo, Ills.

[For Wagner's American Bee Journal.]

Wintering Bees.

Last fall we fed our bees with sugar-syrup until each hive had about ten pounds supply, and put them in our cellar bee-room December 1st, scarcely doubting that they would take their annual nap and wake up in the spring as usual, but a recent examination disclosed the melancholy fact of eight stocks having starved to death, a greater loss than we have experienced for five years, and, of course, we felt correspondingly gloomy about it; and perhaps we might as well confess not a little mortified, too. Our bees consumed so little honey in the winter of 1870–71, that we felt confident that ten pounds was all they needed, and that the twenty-five pound theory was all right for out-door wintering, but for a repository ventilated like ours it was an unnecessary waste of honey. Well our heterodoxy in this case cost us about $115, and with all due humility we confess our blunder, and faithfully promise never to knowingly undertake to winter a full stock of bees on less than twenty pounds of stores.

As to the comparative merits of sugar-syrup and honey, we are satisfied that there is little choice between them for indoor wintering, when the syrup is given freely and in season for capping. During the last four years we have wintered several stocks on syrup alone with the best results.

Hereafter we shall adopt the suggestion of Rev. E. L. Brigg, and winter in November 1st, as we are confident it will save honey, prevent mouldy combs and consequent loss of bees. We find much dampness and mould in all of the hives that wintered with frost in them, while those that were dry are now in the best possible condition. In our latitude there are but few days after November 1st warm enough for bees to fly, while the nights are all cold and frosty, causing a large consumption of honey that ought to be saved for spring (especially where the beekeeper is green enough to winter in on ten pounds), by placing them indoors on or about that date.

Sometime last fall we predicted that beekeepers in this section would experience a greater loss of bees than for twenty-five years past, and judging from reports from all quarters, this prediction has been verified. The year 1871 has been bad enough. Thousands of stocks not only failed to store any surplus, but actually went into winter quarters in a starving condition, consequently bees will be scarce, and those who succeed in getting them through (if Mr. Hazen's overstocking theory is true, which I greatly doubt) may hope for good results. * * * *

G. S. Silsby.

Winterport, Me., March 2, 1872.

[For Wagner's American Bee Journal.]

Eggs in Queen Cells.

As this is a problem not yet satisfactorily solved, I will throw in my mite, gleaned from careful observation. In dividing a colony of bees, I removed the queen and a few frames of brood from the parent stock, leaving it without queens or queen cells, my object being, to have them rear a number of queen cells for queen raising. I put in frames of nice old comb in place of those removed, comb that had not been in colony of bees for months. Some days after in examining the hive I found a number of queen cells sealed over, *one of which was on one of those old combs.* I took particular notice of it, as it struck me as being something singular. That seemed to me clear proof that the bees will transfer eggs from one cell to another for the purpose of queen raising. I think it yet remains to be *clearly proven* that queens will deposit eggs in queen cells and that such eggs will produce good queens. Brethren let us have more light—not the light of theory only—but of demonstrated facts.

J. S. Flory.

Fayetteville, W. Va.

[For the American Bee Journal.]

Cannot West Virginia have a Convention?

Apiculturists of West Virginia cannot we devise means to meet together and have such a concert of action as to induce the people of our young State to enter into bee-culture with an earnestness that will show to our sister States we have one of the best sections in the United States for bee-culture? It is a source of wealth we hope soon to see developed. Light on the subject is what the people want. Shall we then with one voice say, "Let there be light." We solicit correspondence on the subject.

J. S. Flory.

Fayetteville, Fayette Co., W. Va.

[For the American Bee Journal.]

Imprudence of Beekeeping.

This may seem an impertinent heading, but I select it as appropriate to my few well-meant remarks. It does seem to me that in some respects the improved beekeepers of the country are among the most imprudent of business men —and women too, if you please. Finding their avocation recreative, healthful, interesting and in a measure profitable, it seems a large majority of them are doing all in their power to make converts and get everybody else into the business. This is too true of the older members of the calling, but more especially so with the younger ones. It is not uncommon for "beginners" (besides parading their much exaggerated "notes" in print to the disgust of experienced beekeepers and to the astonishment of the rest of mankind) to convert a dozen or a score of other new beginners in a single year. What other class of business men would be so much interested in making competition? Now, that a publisher of bee literature should want to increase the number of beekeepers is but natural, legitimate and consistent with his interests. And, too, it may be consistent for men selling patented bees and patented bee hives to do so. But for the honey producer to do so much to increase competition, seems to me the most supreme folly and an unpardonable business blunder. And pray what objects can there be in it? I see but two; one to show the gaping bystander or reader how much the "great bee man" knows; the other to tell folks that "he is making money out of his bees." Nor is this, what I believe to be great mischief, all confined to the thousand and one local small men scattered throughout the country. Men who would be leading lights, and some who *are* leading lights, shine sometimes entirely too brightly. The reports of these big yields and large profits—most of which are outrageously exaggerated—going the rounds of the newspapers, are "waking" multitudes of men "up to the profits of beekeeping." And suppose, fellow beekeepers, that our numbers increase for the next ten or fifteen years as they have in the last two years, where will be our market? Yes, where will we be in the short space of five years? I am familiar with the old idea that extensive production makes ready market, and it may be true, as regards staple articles, but I am satisfied it will not be so with honey, a thing that almost anybody can raise either in the country or in the city.

I concur with some of the sensible writers in the February number of the Journal, that it is quite possible to overstock bee pasturage; but I have much more to fear from the present prospect of overstocking the markets with honey. And if I am correct in my notions, I have done no wrong in suggesting to my brother beekeepers to be a little more prudent.

Chillicothe, Mo. J. W. Greene.

A fertile queen and good worker comb is the stock in trade of the apiarian.—Hullman.

[For the American Bee Journal.]

A few Estimates.

MR. EDITOR:—I was much interested in the remarks of Mr. A. Grimm in your issue of February last. The difference in the comparative number of swarms from the two apiaries, 105 colonies giving but 68 swarms in his southern apiary, and his northern apiary 43 colonies and increased to 86. I think it is generally supposed that bees rarely swarm unless they have plenty of honey in their field. What would be plenty for 43 colonies would be a comparative scarcity for 105, and would account for the smaller number of swarms.

If we suppose 60 lbs. of honey required for breeding and wintering each hive, we must suppose the amount gathered by the new swarms for breeding and wintering the 105 colonies in the southern apiary to be 6300 lbs. Their product in surplus honey was 6800 lbs. The amount of honey gathered by the bees from that field besides what was consumed by the young swarms, was 13,100 lbs.

If we suppose the average of these colonies to be as good as the colonies in the northern apiary, then 73 colonies would have gathered 4380 lbs. for consumption, and yield nearly 8800 lbs. in surplus. Does not this result render it evident that 121 colonies were overstocking the field?

2. The 103 colonies gave but a little over one-half in surplus, the 43 colonies gave two-thirds. I think it probable that 63 colonies would have given more surplus than 73 colonies.

Is due attention given to this part of our honey business? No doubt that when the honey is taken from the flowers, more is secreted, but it is not secreted probably in a constant stream so that bees may find a full supply from one flower, and another as soon as the first is sated, and then another. Instead of this we find, when a bee has visited a flower, a second on trial will leave it at once. Sometimes a dozen white clover heads will be visited before one is found unsipped of its sweets. I have counted one bee visiting up to hundreds before a load was secured for the hive.

Albany, N. Y. JASPER HAZEN.

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[For the American Bee Journal.]

Transferring Bees.

MR. EDITOR:—In the January number of the American Bee Journal, Mr. J. W. Cramer wishes to know the best plan to work on when transferring a swarm from an old box hive to a movable comb.

I will give my plan. It appears he has trouble in getting the bees out of the old hive. His plan is a troublesome one, at the same time there is danger of losing the queen and a great many young bees.

I use a box, called a forcing box, which I will describe as follows. I make the box 16 by 16 inches at the bottom, 16 in. deep, and 8 by 8 in. at the top, making saw cuts in the top to give ventilation. Spring in some cross sticks for the bees to cluster upon. When I get all things ready, I go to the hive I wish to drive out, and puff in a little smoke from cotton rags, which starts them to eating honey. I give them a little time to fill themselves, at the same time let as many of the bees, as were out at work, in as possible before moving the hive. I then carry it off to some suitable place, invert it on the ground, and put on the forcing box, tie a table cloth around the hive and box.

I hold up one edge of the box, to tap on the hive to start them up; in fifteen minutes you have all the bees up with the queen, clustered in the box. When you have all the bees out, untie the cloth, spread it on the ground, take off the box that contains the bees set in the cloth, bring up the corners together, tie them fast, and carry them back to the old stand for the bees to cluster on that were out when the hive was moved off; prop up one side to prevent smothering the bees; keep the hive in the shade.

Now you have all the bees out of the way, you can transfer the combs without having the bees crawling over the combs daubing themselves with honey.

Sometimes we have to transfer in the cellar, in order to get out of the way of robbers, if we should undertake this with all the bees in the hive, I think it would be a difficult matter. When I get the bees out and secured, I split the hive open, cut out the combs carefully, place them on a table, cut them to fit the frames, tie them in the frame with cotton twine; set them in the new hive as fast as filled. When we get all the combs in, we move the box off, set the hive on the old stand, untie the cloth, draw one edge under the hive, spread it out smooth, shake off the bees, and let them crawl in, just as you would a natural swarm.

I have transferred hundreds of swarms; over a hundred last season in this way, and never met with any trouble. I have transferred from April to September without any trouble.

Monroe, Iowa. J. W. SEAY.

* * *

[For the American Bee Journal.]

Beekeepers of Central Illinois.

A special meeting of the Beekeepers' Association, of Central Illinois, was held at Hudson, McLean county, May 24th, 1872.

MORNING SESSION

called to order by Vice President J. V. Brooks, of Lexington.

The minutes of the last meeting were read and approved.

On motion, Messrs. J. L. Wolcott, Charles McGrew and A. Ogsbury were appointed a committee to prepare subjects for discussion. While the committee were absent the following questions were answered:

1st. How to get rid of fertile workers.

2d. How to successfully introduce a queen.

J. V. Brooks replied as follows: To get rid of fertile workers, take two frames containing brood, with the adhering bees, place them in the center of the hive containing the fertile workers.

To introduce a queen with success, put the queen with a few of her own workers, into a small wire cage, having the opening at one end stopped with wax; suspend the cage in the center of the hive; if the bees fail to release the queen within forty-eight hours, assist her by reducing the quantity of wax at the end of the cage.

Upon invitation, a number of those present signed the constitution and became members of the Association.

The committee on subjects then presented the following subjects for discussion :

1st. Hives and summer management of bees.
2d. Are Italians preferable to black bees?
3d. Are honey extractors beneficial?
4th. The best mode of uniting bees.

Mr. Brooks then opened the discussion on hives by recommending the movable comb hive, as the only hive that should be used, the preference being given to the hive in which the bees could be handled with the greatest ease and profit.

Mr. McGrew agreed with Mr. Brooks on the movable comb hive, even though the bees should build their combs crosswise in the frames. Combs should be changed once in two or three years. He then exhibited a model of his hive, and spoke at length on its merits.

Mr. Benton, of Michigan, said the larger the colony, the more profitable will they be; they need protection as well as cattle, &c. He has a hive claimed to be proof against moth and insects, from the fact that it is used suspended by a bail or handle to the limb of a tree or other suitable place, with open bottom.

E. A. Gastman, of Decatur, did not believe that the moth does the bee any injury, as when the moth is formed the damage is done; it is the caterpillar that does the harm.

Mr. Benton said the moth would eat through the combs and spin their webs and thus injure the combs and bee.

J. V. Brooks said the moth works not among the old bees and honey, but among the brood and young bees, thus working destruction to the colony. Strong colonies are safe against the ravages of the moth. Bees should be handled only when necessary and when the temperature of the air is warm. If some colonies have more stores than needed, divide with the needy ones, or feed them with sugar syrup. Take off boxes as soon as the bees cease working in them, thus preventing the soiling of the comb. Put on boxes as soon as the honey season commences.

Dr. J. Johnson, of Hudson, thinks there is a difference of opinion with reference to the moth attacking the bee and the bee attacking the moth.

Mr. Wolcott said that bees will attack the moth; also recommended salt for the destruction of ants, and that bees have a supply of water.

Mr. Gastman has seen the bee attack the moth and carry it off from the hive.

Mr. Ogsbury said bees will cut out comb containing moth; also attack the moth worm.

J. W. Gladding, of Normal, was asked to explain the merits of his round honey-box, but not having a model, distributed his circulars among those present.

Adjourned to meet at two o'clock.

AFTERNOON SESSION.

2d. Topic.—*Are Italians preferable to common bees?*

Mr. Gastman thinks them better; they gather honey when the black bees will not, and are more prolific.

Mr. Ogsbury's experience is that the Italians are far superior to the black bees.

Mr. Brooks said that some years the Italians will work on the second crop of red clover.

Dr. Johnson said his theory was that the Italian bee would eventually run out.

Mr. Brooks' views were far different from that of the doctor. He thought the old-fashioned bee would have to get the stripes upon his back or leave the country.

3d Topic.—*Are honey-extractors beneficial?*

Mr. Wolcott would not be without them; they are beneficial.

Mr. Sawyer—The honey extractor needs no defence; it speaks for itself in the saving of comb and honey, and is of great advantage to beekeepers.

The Atkinson & Barber extractor was exhibited by Mr. Wolcott, of Bloomington. The Peabody extractor by Mr. Sawyer, of Normal.

Mr. Brooks has used the honey-extractor with entire satisfaction, yielding him a profit of at least 100 per cent. in honey, and nearly all the combs, which is a great economy, as it takes about twenty pounds of honey to make one pound of wax.

4th Topic.—*The best manner of wintering bees.*

Mr. Wolcott commenced the winter with one hundred and forty-five colonies; kept the most of them upon their summer stands; lost but three colonies; would recommend wintering upon the summer stands, with proper protection.

E. A. Gastman at the beginning of winter had thirty-eight colonies; has now not to exceed ten colonies, but less in proportion among those wintered on their summer stands.

J. V. Brooks reports a loss of seven out of forty colonies wintered in a bee-house; disease, in part, dysentery; is at a loss to explain the cause of the great loss among bees this winter; found sour honey in the capped cells.

Mr. Sawyer, of Normal, reports a loss of about fifty out of about seventy colonies; cannot tell the cause.

A number of others made reports of about the same average loss.

5th Topic.—*General remarks on bee-culture.*

It is necessary to put bees in the spring on the same stand they occupied the previous year. No danger in moving bees one-half mile or more, this season of the year. Artificial better than natural swarms in some cases. Strong colonies needed for surplus honey. Cleanse old, unclean combs by exposing them to the fumes of burning sulphur.

The following resolution was then adopted :

Resolved, That this association return their thanks to all the papers which have published the notice of this meeting. Also to the citizens of Hudson for their kindness and hospitality, and giving the use of their school house for the use of this association.

On motion the Convention adjourned to meet at Lexington, McLean county, on the 18th of July, at 9 A. M. Ladies are particularly invited to attend.

J. ANSLEY, *Secretary.*

J. W. GLADDING, *Corresponding Sec'y.*

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[For the American Bee Journal.]

Gallup on One-story Hives.

The May number of the Journal is just at hand. We are certainly sorry that we cannot make Novice understand us, but we have surely failed thus far. No, Novice, we are going to try another plan, and see whether you cannot get our idea into your head, and in the meantime send twenty-five cents to D. L. Adair, for Progressive Bee Culture, and that will probably help you a trifle, as Mr. Adair and Gallup have arrived at nearly the same conclusion with our new ideas.

When the flush of honey comes on is the time that the queen would breed the most, if properly managed. But as they are usually managed, the honey gatherers encroach up the brooding space, and instead of giving the queen more room at the time she requires it, she is restricted in her breeding. This is the reverse of what it should be. Now scratch your head and try to take in our idea. We don't care a straw what kind of a hive you use. Now we want a large amount of bottom combs ; therefore we do not want a two-story hive, for the queen prefers to keep her brood (we are going to use Mr. Adair's language, as it is most appropriate) at the bottom of the combs in midsummer, and contrary to our previous notions we find that the more prolific the queen the more brood there is raised ; the better the balance of the stock is kept up, the more the workers are stimulated to action. *Understand us.* If brood hatching is not kept up rapidly and abundantly, there is soon a disorganization of the forces in the hive. It is the age of the bee that determines the occupation. Now take an ordinary ten-frame Langstroth, such as you use ; get the queen to breed in all parts as much as possible, until you have what you call a rousing stock ; now have a Langstroth made double-width, to hold twenty frames, all on the ground floor. Place your stock and comb in the centre ; now you have room for five combs on each side. Fill up with good, nice, straight-worker combs. We will suppose the queens want more room ; move the brood apart and insert one empty comb right in the centre, and keep doing so at regular intervals as required, and in the meantime (by means of the extractor) keep the honey out of the way in the outside combs, and see if you cannot get up a larger and stronger stock of bees than you ever had before, providing the honey harvest is good at the time.

It is the new idea that we wish to beat into your noddle, and not *the style of hive.* With this management, or this idea, we can get up a stock of bees that will gather honey rapidly all summer, providing the forage holds out abundantly. By this idea, properly carried out, we check all disposition to swarm, and keep the queen breeding up to her full capacity. As bees are usually managed, if we get up an extra strong stock right in the midst of the honey harvest, the disposition to swarm decreases the production of honey to a great extent. Now, if we can get up stocks as strong as we usually did, and prevent all disposition to swarm, we have gained two important points toward an extra large yield of honey.

Old Mr. Hazen has been laughed at considerably, but I think the old gentleman has some very good ideas, if properly carried out, as well as some that are not so good. Mr. Hosmer, Adair, Grimm, Butler (of Jackson, Mich.), Langstroth, Gallup, and we don't know how many more, have come to the above conclusion. That is, strong stocks for strong surplus honey. Yet we don't know that all of them have our ideas about raising the bees, and keeping them to work right when they are raised, and that, too, in such extra strong numbers as Mr. Adair, Hosmer and Gallup do. We see Mr. Furman is considerably excited, but we guess he will live through it. He will probably feel better after blowing off steam a little. Keep as cool as you can, friend Furman, it will be better for your health. We firmly and sincerely believe that the man is now living that will get one thousand pounds of honey from a single colony in one season, and if from *one why not from more.* Now, friend Furman, your calling him a liar will not alter the fact one particle. E. GALLUP.

Orchard, Iowa, May, 1872.

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[For the American Bee Journal.]

Answers to "Enquirer."

In the May number, page 252, Enquirer asks why it is necessary to keep until after sunset swarms that are to be doubled or to be returned?

Answer.—It cannot be done in the daytime without great risk of quarreling. We have several times, and lost the entire swarm ; but after sunset they unite in peace ; therefore we leave all such swarms, and leave them just where they were until we unite them.

As we stated in the February number, the basket hiver is simply a common peach basket, with the bottom bored full of holes, and the slats that form the sides about half cut away, to make it as open as possible. Now stick in the inside a goodly number of strips of comb, about an inch wide and two or three inches long, all over the inside, for the bees to cluster on. Nail a leather strap on the outside of the bottom, seven inches long, with a harness snap sewed to the end of it. You then want two or three different lengths of poles, with a ring on each one, to fasten the snap to. As soon as the swarm begins to light, let about half of them cluster; now jar the tree with the butt end of the pole to make them take wing; again put the basket in the spot where the bees begin to cluster, and they will enter the basket. Then carry them to where you wish to hive them. J. BUTLER.

Jackson, Mich., May 14, 1872.

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[For the American Bee Journal]

Inquiries.

Will it be safe to use for new swarms honey from hives in which bees have died from dysentery?

I have lost more than half of mine by this disease in movable comb hives, and if I can use them again I will be able to save something. Your correspondent, who thinks that bees died of dysentery caused by honey dew from the beech, fails here, for there is not a beech within one hundred miles; and I think that beekeepers have lost fully fifty per cent. of their colonies, and certainly not from that cause. It has made no difference whether they have been in-doors or out; the only exception to this is the case of one man, who gave his bees a chance to fly in February. He did not lose a swarm.

S. P. BALLARD.

Sharon, Wis.

Bees have wintered very poorly in these parts. About one-third or a half died during the winter, and many swarms have left their hives. I am not surprised that the bees left such things. Out of one small hive ten pieces of timber crossed in all directions, so the bees had to brood on timber, some of them as thick and broad as two fingers. Hardly four inches of straight comb could be found in the whole hive. Such a place might do for chickens to roost in, but it is a very poor place for bees to breed in. Another hive I looked at was about eight inches wide, ten deep and fifteen long, with a partition across the hive which confined the queen to one end, and the other end was all drone comb. They had tried it one summer, and were satisfied it was best for them to leave such a thing.

I find that bees feed better on fine ground Indian meal, mixed with bran, than they do in either rye flour or the cleanings from the smut mill. I had three boxes containing the three different articles, and they preferred the corn meal and bran.

I gave one of my hives last September some Italian eggs to raise a queen. When I opened the hive this spring I found a large number of drones, but they have now all disappeared, and a fine specimen of workers appear. It is one of the strongest hives I have. I intend trying W. R. King's fertilizing tent this season. I may report the result. J. LUCCOCK.

[For Wagner's American Bee Journal.]

Natural, Hardy and Prolific Queens.

ANSWER TO MR. JOHN M. PRICE.

A renowned French lawyer has written somewhere: "Give me ten lines of the writing of an honest man, and I will send him to the gallows." Of course, to obtain such a result, it was necessary to be able to give the words contained in these ten lines another meaning than that intended by their author.

Mr. Price, in his last article, in the June No. of the American Bee Journal, has gone further with me, for not only by the interverting of the extracts does he change the meaning of my letters, but he has falsified them also. For instance: I have written, "I am very little disposed to *sell* you any more queens," and he copies to *let you* (have) any more queens. As I have already stated in the March number of the American Bee Journal, the same John M. Price, in a letter dated July, 1870, asking for another queen, writes: "If you can send the queen let me know *with price*." Mr. Wagner has that letter in his hands. I have sent it to him with another of Mr. Price's letters.

In the July, 1870, letter, I answered that I knew the queen I had sent was prolific, and that Mr. Price had ill judged her, and, that with spring, she would prove very prolific, &c. Two months after, I received another letter, dated October 12th, 1870, in which I read: "Please send me a queen that you know from experience to be good, pure and prolific, either Italian or of your own raising. *C. O. D.* (collect on delivery), send Monday or Tuesday. Signed, J. M. Price."

I answered that I had no queens to spare; and that as soon as the bees could raise queens in the spring, I would send him one, but at the same time I gave him the advice to get one or two imported queens. This queen or queens were of course to be sent according to Mr. Price's own terms, *i. e.*, C. O. D.

I beg the reader to remark that the second paragraph of my answer which refers to the imported queens is put purposely without date, and, coming after my letter of April 21st, 1871, while the whole was written about October, 1870. Meanwhile the discussion between us on the artificial queens continued and the laugh being on my side, as we say in France, Mr. Price lost his temper, and, finding no good reason to combat mine, he concluded to attack my honesty.

To put an end to the personal dispute, for which I beg leave to offer my excuse to the readers of the Bee Journal, I offer to Mr. Price, that, we both should send all the letters in our possession to Messrs. Langstroth, or Gallup, or Novice (A. I. Root), or Nesbit, or Quinby. All these gentlemen are well known for their honesty and impartiality. If the gentleman chosen by Mr. Price, among those named, judges that I engage myself to replace the queens in question, then I promise to send ten tested queens to Mr. Price. I will add this condition: The verdict shall be inserted in the three Bee

Journals published in this country at the cost of the loser.

Mr. Price has said to a well known beekeeper, whom I can cite, that he was anxious to get himself a name in the bee-keeping fraternity. I hope he will seize this opportunity of seeing his name in the three papers with pleasure.

CHAS. DADANT.

[For the American Bee Journal.]

Bee Notes from Alleghany County, Md.

MR. EDITOR:—If you will permit me I will give you a few notes on bees in Cumberland and the surrounding country:

Bee-keeping is in a backward state in this section, that is improved bee-keeping. Some have sold all their bees because they have moved to town, but that is no excuse, for I live a quarter of a mile within the city limits, and my bees work just as well as they would if they were in the country. There is no better field for bees than Alleghany County. The first honey we get here is from locust, which blooms about the middle of May and lasts about a week, and is crowded with bees from morning till night. Next is white clover, and then mustard, which I think is just about as good a honey producing plant as can be found anywhere. It blooms during the whole summer, wet or dry, and is visited by swarms of bees during the whole day. Indeed, I believe the bees prefer it to white clover. The honey is rather red, but clear, and I can get more honey from it than any other plant. Linden blooms here about the first of July and lasts about four days. I believe it produces the best honey, but it does not last long enough. Before the bees have time to gather much of it it is all gone. If it would last as long as mustard or white clover, it would exceed both in amount of honey. While linden is in bloom there are not many bees to be seen on other plants. There is quite a grove near this place along the Potomac on the Virginia side, and some are planted along the streets of the city for shade trees, and so there is an over supply of honey for the number of bees kept here.

As I told you before, I lost seven stocks last winter, and I saw in the last number of the Journal, a remedy for the disease they died with, namely: to extract all the thin honey that is not capped over, and if there is anything in it, I will try it. I think I will purchase a honey extractor, for I have some trouble to get the bees to work in boxes. I do not know whether my bees died with a disease produced by this thin honey or not, but I noticed that those stocks that died, had some of it. I left the strongest stocks out on their summer stands and they came through strong and healthy, but those I put in a nice warm house are the very ones that died. Did not these I left out gather as much of this honey as those I put away, and, if so, why did not it kill them, also? Can any one answer that question? I believe that it is a proof that bees will winter better on their summer stands (protected from cold winds) than they will when put away, for I never until the last winter, put my bees away and I very seldom lost any. I do not want beekeepers to leave their bees out because I did, for others might succeed just where I failed. I am going to try artificial swarming this season, but have met with some reverses already; first, I cannot get many queen cells capped over, and those I do get, after the queens hatch, are lost when they fly out.

To-day the bees left all the nuclei I had and joined in one swarm. I put them into a hive, and as I thought it had came from one of the hives, as a young swarm, I put it upon the stand. But after I went to look at my nuclei I found all the bees gone, and then I knew where the swarm came from. They had killed all the queens, but one, by that time, and therefore, I have got only one queen to commence swarming with. What puzzled me most was why the bees left the nuclei and joined into one swarm.

C. E. WIDENER.

Cumberland, Md., May 24th, 1872.

[For the American Bee Journal.]

Wintering Small Colonies.

I read an article from Mr. Hosman, saying he divides his strong colonies making three or four out of one, not using over a quart of bees, if he has more he would shake them off on the snow. I think this is calculated to lead new beginners out of the right channel, for that suits most new beginners, for increase is their aim; here is where so many new beginners have failed. When movable comb frames came in use, they thought they could increase their colonies, whether they would or not; they weakened them, however, so much as to give a foothold for the moth which destroyed their bees, then the patent hive got thunder. My plan has always been to keep my bees strong; they winter better, and come out strong early next season. Mr. Hosman may be right, but it seems to me he is trying to take a near cut.

I don't intend to criticise him, I just want to caution new beginners to go slow, to keep their colonies strong both winter and summer, that is my experience. I have tried wintering small colonies when I had queens in the fall that I wanted to keep over, but generally lost them. I will close by saying, keep your bees strong. Aim at a moderate increase, and you will find your increase more rapid, than by striving to do too much.

Monroe, Iowa. J. W. SEAY.

Mead.

Will some one of the many readers of the Journal, give a recipe for making this agreeable summer beverage.

GEO. HOWE, M. D.

Pte a la Hache.
Parish Plaguenime, Louisiana.

[For the American Bee Journal.]

Novice.

Dear Bee Journal :—Apple trees have blossomed and gone, and for two or tree days gave us considerable honey. Locust trees have also been loaded with blossoms, and although the weather has been very favorable, no honey, or none of any account, was collected ; of course the bees worked on them, and many hearing their joyous hum and seeing the great numbers at work, said, accordingly, they were doing finely, but a careful scrutiny of the interior of the hives showed, as it often does, that the bees were doing all they could, but each day's labor hardly produced enough to feed the countless thousands of "little ones."

Abundant rains brought white clover in abundance, but even that failed to give the accustomed results until yesterday and to-day, June 12th and 13th.

We had really began to think that we were at last to have a sample of Gallup's poor season two years ago (by the way, will some one tell me what Mr. Hosmer did that season, as he seems from his offers to defy alike bad seasons and good), but at the rate honey is coming now, we fear we shall have no such opportunity for experiments.

To go back to the locust trees, we remember only one good season for them, 1870, when we got about 1000 pounds locust honey, and since then we have had two of which locust trees would hardly bear classing with honey-yielding plants.

It has been many times suggested that we plant a locust forest instead of basswood, but basswood we have proved and tested, and we think it never fails entirely, and on the whole produces more honey than *all other sources together*.

Our young forest is now under the influence of cultivation and bone dust, just shaking their bright leaves in the breeze as if they would say, "*what fun it is for us to grow!*"

Our queen or queen worker mentioned last month laid about 6 inches square of brood, considerable of which was drone, and then tapered off and slid away somewhere, leaving her small family to do the best they could, and so saved us the trouble of pinching her out of the world, to make room for some one who would preside with a greater capacity for replenishing the empty cells provided for her.

There certainly would have been no difficulty in deciding, as Mr. Langstroth says in his *excellent* article, page 267, that such a queen as she appeared when first hatched would probably be quite inferior.

In fact, our yield of honey has been furnished a greater part of it from comparatively few hives, and a few also furnish but very little ; and we think the greatest reason is the difference in the capacity of the queens ; but the fact stands out very plain and prominent, that our *very best* are just as often raised in small stocks or with but few combs or bees, and our artificial queens are certainly the best. One reason may be that they are always reared from our choicest queens, and natural queens are raised as they happen.

We keep our queens generously until their third year, and some until the fourth, when very prolific.

We are very sorry to see such hard words pass between Mr. Price and Mr. Dadant, and feel sure that both gentlemen are much better men than they would persuade us. In the heat of argument, both are speaking stronger than they mean. Voluntary mistakes, we think, will apply to Mr. Price as well as Mr. Dadant. See p. 78, vol. 6, also.

Mr. Price has been referred to before, and must have known that Novice makes an apparent contradiction, and to be honest, why does he not mention that such is the case? The last statement was made carelessly while we were writing with another topic in view. Nearly all of our Grimm queens were used to replace queens whose progeny were too near black, some quite young and prolific, so much so that we have since regretted replacing them.

And Mr. Dadant, if you would allow us to advise, we should ask him to send Mr. Price a queen to be paid for only when and at what price he will think fair and just. Mr. Price will do what is right and just, we *know he will*. There is quarrelling enough outside ; please let us have no more in "our family," be it ever so large.

Mr. Gallup comes down honestly and says he thinks the same result might be obtained with regular Langstroth frames, and promises directions for using his principle with the Langstroth frame. We really believe his "hitting us" has something the same effect as the parent who punishes only to "make the child better." If we don't "get better," we certainly get some new ideas, and they don't hurt at all. Many thanks, Mr. Gallup!

The best colony in all our apiary, we believe, is in a two-story hive, frames one foot square (not the Gallup hive), and they are really pretty to handle, just the thing for ladies to handle, but for some other reasons we prefer the shallow frame.

The queen of the colony just mentioned is two years old, and was raised from four combs of brood only, *no bees at all.* The combs were put in an empty hive over night, and next day, very warm weather, so many young bees had hatched out, that we let them go, and they alone raised a queen, and that queen, now just about two years old, we pronounce the *must prolific in our apiary.* "How is that for high," or rather for Price? We have raised queens the same way before, but it didn't always work. We dislike the bother of cutting out queen cells. Can't some other "Yankee" assist us in devising some arrangement for keeping queens in their cells twelve or twenty-four hours after they are hatched, so that we may save them all. Our device of late years answers, if sufficient care is used, but they are too cumberous and clumsy.

After they are hatched, we do this way : Take a comb or two of brood from any hive, and the young queen and a few young bees from her own hive, and all introducing is done. When she lays, give them three or four more frames of brood, and you have a nice colony with little trouble.

Do you wish to know what fun we are going to have to-morrow? Well, listen. We are going to hoe up the few remaining weeds, and level the ground around the hives; put some fresh saw dust about the stands; see how much the new soft white combs have grown over night; look if the thin lazy little chaps have commenced work in our fine English glass shades (that ain't quite box-honey, is it?). Scold those queens that don't get around and fill all empty cells with eggs; scatter ashes over the floor, get our better half's dust pan, brush-broom, tack-hammer, sharp knife; get our pants stuck up with bees-wax on the knees (don't hurt 'em), and get tired out as we are now, and so good-night to all! NOVICE.

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[For the American Bee Journal.]

Bee-keeping in Central Illinois.

It has been many years since I commenced keeping bees. I came to this State from old Kentucky in 1835. I was then a young man of very limited education and have not learned much since. At that time I turned my attention to bee-keeping, and I succeeded finely for a number of years. I used the common box-hive; never went to look at them, only when they swarmed or when I wanted honey, but when I now look back to that time I can easily see why I succeeded so well with my careless management. At that time a greater part of our beautiful Illinois prairies were as nature adorned them, abounding in flowers of all kinds; bees then found more material than was possible for them to work up. When I used to ride over the prairies and see thousands of acres, the flowers of which were not enlivened by the hum of a single bee, little did I think of ever seeing a scarcity of honey; then was the time for honey, and through its over-abundance strong stocks were built up, which rendered them able to expel the moth, and defend their domicile. But, alas! some fifteen years later all of the beautiful flower gardens had been changed into fields of corn and wheat, and the poor beeman's servant was compelled to hunt its goods from other sources, and the result was, the swarms were reduced in strength through the scarcity of honey. Mr. Moth hatched out in their midst and fully developed himself, and took possession of their scanty stores, and the bees died. when fall came on the farmer went out to get his honey, as he had done for years previous: he found a sad state of affairs, hive, comb and rooms were all turned, he declaring that he had no more luck with bees, and would quit it altogether. I with the rest suffered more or less from the disadvantages under which my bees had to labor, and under which I labored in handling them, for then I had nothing more in the way of a hive than a box made of rough boards with a few cross-sticks in it. To-day we have the Langstroth movable frame hive, which I have used many years, and, the longer I use it the better I like it. I think it affords the greatest convenience in handling, examining and protecting your bees against any obstacle which nature may bring in their way. During the past six months this section of the country has been canvassed by five or six agents of patent hives, some almost identical with those in use. These agents all being oily tougued fellows succeeded in selling a great many hives to uninformed men for the small sum of $10. If I should ask them that much for a hive full of bees they would think that an outrageous price. During the last four months these agents have been seeking to create a bee-fever. Everybody wants to keep bees, and wants to have them in some fancy hive, furnished with doors and sliding drawers, and in fact everything in the world that would make it appear complicated.

As I am in the book trade, I thought to myself now is the time to sell bee-books, so when I saw a man suffering from that terrible fever I recommended either Quinby or Langstroth's excellent work on bee-keeping, but, so far have not succeeded in selling a single one. The other day an old gentleman who kept bees in his yard for many years remarked to me that he had been expecting his bees to swarm for the last month. I asked him if they had built queen cells. He replied, that he didn't know about that, but had noticed all his life that the king bee couldn't stand much heat, and that during the warm days of spring with the old bees would lie out in clusters on the outside of the hives. which was in every case a sure sign of swarming in at longest four days He said when they swarmed the king and the old bees left, and the queen and the young bees remained behind. When I heard him go on in this matter, I hesitated what to do under the circumstances, finally I advised him to read Quinby. He replied he would rather become acquainted with the way and nature of the bee through experience, than through bee books and journals. Well, on the 16th day of May (very early indeed for swarms to issue), he had a chance to learn experience, for sure enough, as he would have it, his king bee came out with a large swarm and settled in the branch of a tree some nine feet from the ground. He placed one of his new patent hives under the tree, got two of his sons who are young men to help him, advising them all the time to keep a sharp lookout for the king, for he never had seen one, he got on a chair, bent the limb down so that the boys could hold it, he then shook the bees off into a large basket and was handing them down to the boys when the chair tipped, he slipped, the basket turned, the bees fell out on the boys and the beekeeper fell down in their midst, and as none of them were provided with a bee-hat and gloves you can imagine what a sweet time they had. I think each received about hundred stings. It has been four days since it happened and they are still fearfully swollen. I have laughed myself fat over it, and hope that my readers may enjoy it equally well.

I also hope that it may serve as a good lesson to two classes of beekeepers, viz., young beginners and old ones uninformed and unwilling to be informed.

The wise man delights nature's ways to explore,
The fool is satisfied, because he knows no more,

Men who want to succeed in bee-keeping at the present day, must avail themselves of the opportunities which our bee journals, bee books and well informed bee men give to the public, to educate themselves in this science of management and culture, then and not until then can they expect success.

OLD GRANDFATHER.
Marine, Madison County, Ills., May 20, 1872.

* * *

[Translated for the American Bee Journal.]

Honey dew on the leaves of a Linden.

On the 21st of July, 1869, at Liebfrauenberg, France, the leaves of a linden were covered on their upper surface with a viscous and very sugared matter. The tree had contracted the honey dew disease; a kind of manna frequently observed not only on lindens, but also on many other trees. I have seen it on a plum tree, and what is more rare in France, on an oak tree.

On the morning of the 22d, the honey dew was so abundant, as to fall in large drops on the ground. It was a rain of manna. At 3 o'clock in the afternoon, the dew dropped no more from those leaves exposed to the sun. It was so thick that one could touch it without soiling his fingers. It formed a kind of transparent and flexible varnish. As soon as the leaves were in the shade, the dew returned to the liquid state. At 9 in the evening of July 23d, the leaves on the extremity of the branches, were carefully washed and sponged to remove all sugared matter. At six in the morning of the 24th, the leaves that had been washed the evening before, seemed to be free from dew; yet with a magnifying glass one could perceive some glittering points formed of very little drops. At seven in the evening, the leaves were in the same state. The day had been warm, the thermometer indicating 29° (83° Fahrenheit). On the 25th, many drops of honey were spread over the leaves, but none upon the main nerves of the leaves. At three in the afternoon, the thermometer indicated 30°.

In the night of the 26th, the leaves were washed by a heavy rain. It was impossible to watch the progress of secretion on the leaves. A swarm of bees settled on the tree. On the 28th, in the morning, the leaves were covered with spots of dew, that had appeared during the night. On the 29th, the dew increased. On some leaves it occupied one-third of the surface. At 2 P. M., the thermometer indicated 29°. On the 30th, the dew was very abundant. This linden remained covered with it until the beginning of September, when it was stopped by long and persistent rains.

On the 22d of July and the first of August, the dew was gathered by washing the leaves. The product treated by the *sub-acetate* of lead to eliminate the albumen, the mucilage, &c., &c., gave a syrup in which some sugared crystals were found.

This honey dew was found to contain sugar similar to that of sugar cane. After some yeast was added, the sugar disappeared completely, yet in the fermented liquor some *dextrine* was found.

The analysis of the substance gave:

	Gathered July 22d,	August 1st.
Cane sugar	48.86.	55.44.
Fruit sugar	28.59.	24.75.
Dextrine	22.55.	19.81.
	100.	100.

The reader will notice, that the proportions of the ingredients were not the same in the honey dews gathered at different times. Doubtless nobody could expect to find exactly the same proportions at different times. What is most remarkable, is the striking analogy of the proportions of the ingredients of the honey dew of the linden and those of the manna of Mount Sinai, which is composed as follows:

Cane sugar	55.
Fruit sugar	25.
Dextrine	20.
	100.

By comparing the dew spread on the sickly leaves of linden with the sugar contained in healthy leaves we find:

	Cane sugar.	*Fruit sugar.*	*Dextrine.*
In one square meter of healthy leaves	3 gr. 57	0 gr. 86.	
In dew gathered on meter of sickly leaves	13. 92.	7. 20.	5 62.
Difference	10. 35.	6. 37.	5. 62.

The honey dew exuded by the sick leaves of linden is therefore considerable, and furthermore, dextrine, which is found in those leaves, does not exist in a healthy leaf.

From the measures taken upon a tree of the same age and size, it results that the leaves could cover a surface of 120 square meters. On the 22d of July, the tree was supporting 2 and 3 kilogrammes of dew (4 to 6 lbs.).

In the normal condition of vegetation, the sugar elaborated by the leaves under the influence of light and warmth, penetrates into the organism of the plant with the descending sap. In the abnormal state which determines the formation of the dew, the sugar matter is accumulated on the upper surface of the leaves, either because it is produced in larger quantities, or because the motion of the sap is interrupted by the viscosity resulting from the appearance of dextrine.

The honey dew cannot be caused by the meteorological influences of warm summers. It is true that this linden secreted dew during a period of drouth in a hot summer, but it should be remembered that only one tree was attacked by this disease, and that only a few rods further, there were some lindens quite healthy.

Some authors pretend that plant lice after having sucked the dew from the *parenchyme* of the leaves, spread it afterwards, scarcely modified, but this is contrary to the results of analyses. Besides some persons have said that some insects can provoke the production of honey dew.

Messrs. Ehrenberg & Hemprich attribute the formation of manna in the mountains of Sinai, to the bite of the *coccus* on the leaves of the tree *Tamarix mannifera*. They say: "The manna falls on the earth from the regions of the air, is from the top of the trees and not from the sky. The Arabs call it *man*. The aborigines and the Greek monks gather it to eat on the bread like honey. I have seen it fall from the tree, I have gathered it and brought some to Berlin with the plant and the insect."

The manna gathered in 1869 at Liebfrauenberg, did not originate from an insect like that of Mount Sinai, although it was composed of the same substances. When it was first noticed on the linden, no insects were to be seen. After a day or so, lice were perceived glued on a few of the leaves. I have seen the above, after having washed the extremity of some of the branches. Some diminutive drops of dew were discovered increasing constantly until the leaves were entirely covered with it.

This slow and progressive extension of the honey dew was evidently accomplished without the help of lice, which like bees and other insects, arrived only afterward to suck the sugared food.

Translated from the Bulletin des' seànces de la societé centrale d' Agriculture de France, by
Ch. Dadant.

The above article explains the immense yield of honey gathered by Messrs. Gallup and Hosmer. When such dews happen, the bees are never numerous enough to gather all. Oak trees in my neighborhood give some honey occasionally. It happens generally when the atmosphere has been cooled after a thunder storm. I have seen that very often every season; it is scarcely ever very abundant, but helps the bees to a certain extent.

Ch. D.

[For Wagner's American Bee Journal.]

The Berlepsch Declaration.

We call special attention to the Baron of Berlepsch's reply, published by Mr. King, to our friendly strictures upon his "Declaration."

These who desire to examine the matters in controversy, have now all the facts before them, and need no special comments from us to influence their opinions.

We accept the baron's explanation that he no longer holds us responsible for what he once supposed to be our arrogant and ridiculous assumptions, or for attempting to claim his invention as our own. We have, from our own experience, too much sympathy for his loss of health, to seek to involve him in any unnecessary controversies.

L. L. Langstroth.

REPLY OF BARON VON BERLEPSCH TO MR. LANGSTROTH'S STRICTURES ON HIS DECLARATION.

Translated from the German for the "Beekeeper's Journal,"
BY CHARLES L. COHN.

I do not understand the English language, and consequently was obliged to have Mr. Langstroth's article translated into German, and of course am compelled to give my answer in German also, but cannot be held responsible for its correct English translation.

Mr. Langstroth's accusations are, that my letters to the *Bienenzeitung* contradict the statements of my declaration in the case of Otis *vs.* King.

The first contradiction Mr. L. professes to find is, that in my second letter to Mr. Dzierzon, I said I had exposed myself to well deserved ridicule, because I had condemned a hive the construction of which I did not understand, while in my declaration I said that I had already in 1843, recognized the importance of the invention, and sought to improve it by substituting frames for bars.

In the spring of 1843, I got of John Baptist Furst, in Frauensdorf, Bavaria, a so-called Dzierzon hive, but I found afterwards that it was falsely constructed, because the bars ran from front to rear, instead of from right to left. I remedied this evil, but condemned the "Dzierzon hive," because I took it for granted that the bars in all of them were like this one. But on a visit to him afterwards, I found that his bars were properly arranged, and that "I had made myself ridiculous" by slandering his hives in general. When, in my declaration, I asserted that I appreciated the importance of his invention, I was alluding, as a matter of course, only to the movable feature of the hive.

In consequence of the false position of the small frames of the above-mentioned Dzierzon hive, it was impossible to place them in firmly, and after I discovered the correct idea of ranging them from right to left, I had only to remedy the defect of their being at irregular distances from each other, which I accomplished by "wings" at the corners.

This explanation fully answers Mr. L.'s second accusation also, for even if I had not perfected a plan for keeping the bars at proper, regular distances, *it is nevertheless a fact that the practical idea of movable frames was invented*, and the following summer sufficiently proved their usefulness.

The *third* contradiction, so called, is, that the glass doors were in the rear of my hives, but I wished to have them like Dzierzon's, on its sides. To effect this, it was not necessary to have new hives made, but simply to turn the hive and make the entrance hole on the other side.

In no way could Mr. King influence my declaration, because at the time it was given, that gentleman had already gone back to America; and while he was present, we were, as a matter of course, not able to understand each other, because he is not able to speak German, and I do not understand English. And I do not know whether I came to the view that Mr. Langstroth claims the absolute invention of said frames and glass supers, through an American newspaper, or a falsely translated expression of Mr. King's. I know very well that the same invention may have been discovered by different persons at the same time, but I nevertheless hold Mr. Propokovitsch, a Russian gentleman, as the original inventor of the small frames. The credit does not belong to Francois Huber, because his hive consists of several parts.

I called Mr. Langstroth's hive totally impracticable. I will take that expression back, but must nevertheless declare it to be greatly inferior to those in use in Germany.

I have seen Mr. Langstroth's hive, because Mr. Backus brought one of them from America, in 1858 to the city of Gotha, where we stocked it with bees.

If I had seen the hive in 1851, I would have pronounced it excellent, but in 1858 the improvements in Germany were far superior to it. Mr. King never had any intention to deceive or influence me to his advantage, but, on the contrary, always asserted that he only wanted to find out what was *right* and *true*, and for this purpose would willingly stand any sacrifice.

At the same time, a misunderstanding is possible, as all our business had to be conducted through an interpreter; and besides my own ill-health made all mental labor more difficult, and my bodily condition makes me now hope that this statement will end my duty in the premises.

Respectfully,
AUGUST BARON VON BERLEPSCH.

[For the American Bee Journal.]

Is the Italian Bee superior to the Native?

The Italian bee made its first appearance in this country under the most auspicious circumstances. In the first place, it was a foreign importation and came to us with a European reputation. It is characteristic of the American people to give an extravagant reception to all European celebrities and scions of royalty, and an undue importance to foreign importations. Things of foreign importation are taken for granted to be superior to those we have at home, frequently without proper investigation and comparison; and it is only necessary for cattle, sheep or hogs, drygoods or hardware to be stamped with "imported" to give them superior value in the estimation of four-fifths of our people, when in reality they are often no better than our home-made productions.

The importation of Italian bees was made just at a time when an interest in the subject of beekeeping had been awakened by the publication of two of the best works upon the subject that had been issued in this country. They were extravagantly lauded by the importers and breeders, and eagerly sought after by beekeepers. Our Yankee acquisitiveness, always quick to see where a penny can be turned, saw in this demand a new department of beekeeping, and queen breeders became numerous, flooding the country far and wide with their circulars, enumerating at great length the superior qualities of the new importations.

Nearly all the first purchasers in turn became queen breeders, and all united in blowing the trumpet of their fame, many not having had Italian bees long enough to become acquainted with their peculiarities. The beautiful color of the Italians and marked difference from the natives made them attractive, and the opportunity and advantage it afforded in studying the habits and instincts of this wonderful insect, while changing colonies from black to striped, have made them favorites with the amateur and naturalist. Under such circumstances, it is not at all astonishing that they should become quite popular.

They have now become widely disseminated and fallen in the hands of beekeepers who do not make queen-raising a business, but keep bees for the surplus honey, and in their sober second thought they begin to ask: Is the Italian bee superior to the native in giving larger amounts of surplus honey?

In some of our bee conventions, which have generally been inaugurated and run by those interested in the sale of Italian bees, some few had the temerity to assert that the Italian bee was a humbug, and no better than the native, while some of the correspondents of our paper more modestly assert their doubts as to their great superiority.

It is not certain that many of the superior claims of the Italians, enumerated at length in circulars of queen breeders, may be greatly whittled down or entirely cut off. That the Italian will gather honey from red clover, or any other honey producing plant, when the native bee, cannot or will not in any paying quantities, is a myth which is about exploded. That in some seasons of great drouth of honey, in some localities they have been known to secure more honey than the natives, has been pretty well established by the testimony of some reliable witnesses, but without knowing from what source the honey was procured, whether from the flowers of plants or the hives of other colonies. That they possess quite an amiable disposition, which makes them in all cases more easily handled than the natives, is no longer contended for by some of the most experienced beekeepers, and generally doubted by most who have tried them.

That their queens, as they are now carefully bred and selected, are more prolific, is generally conceded, but with all the care given to their breeding, we frequently hear of unprolific ones. That they are also more disposed to swarm frequently is likewise granted, but instead of this being a recommendation it is a decided objection with most honey raisers. It is claimed that they stick more tenaciously to the combs, but as frequent shaking off is necessary in the use of the extractor, we may hear this urged as an objection to them. It is admitted by Mr. Langstroth and others, that they will not store honey in empty surplus boxes as readily as natives, but it is claimed that they will store more in furnished combs.

We have but little or no positive evidence that they will give more surplus honey in a given number of seasons, all things being equal, than the natives. In fact, we doubt whether an impartial test and comparison has ever been made. We have all taken it for granted that they were superior to the natives, and in introducing them to our apiaries, the first thing is to get rid of the inferior blacks as soon as possible. If a few colonies of blacks remain in the apiary for a year or two, they are generally neglected, while the Italians have all attention. And should they receive the same treatment and fail to give as much honey as the Italians in one season, this will not be conclusive evidence in favor of the latter, for we know that there will be some qualities in every apiary that will not do as much as others, though everything is apparently equal. Many assign superiority to the Italians because they are now more successful than when they formerly kept the natives; but there is not in this the least evidence in their favor. The extra cost of the Italians and their being somewhat new, will naturally cause one to take more interest in them, and give more time and attention to them, than was formerly given to the natives, and there are but few of us who have not learned a great deal more about the proper management of the Italians than we knew before. This, with the difference in seasons, and the great pains taken in raising Italian queens to have them crossed with different stocks or importations, and in selecting the most prolific for queen mothers, while the natives are left to take their own course, will easily account for this apparent difference. Let a native queen be taken from the forest of Canada, and another from Tennessee, or from any remote distance from each other. Let queens be raised from one of these, and be fertilized by drones from the other, and with these queens establish half a dozen or more colonies and place them beside the same number of Italians of the most approved stock, in the same kind of hive and with the same treatment. Say that one-half of each kind be put in two-story hives, and the extractor used, while the other half be furnished with surplus boxes, and let the result be carefully watched and compared, not for one season only, but for several. Has this ever been done? Who will try the experiment?

Native.

* * *

[For the American Bee Journal]

"Gallup's blowing up Grimm" does suit me.

When I see W. H. Furman's suggestion that there is little confidence to be placed in Grimm's queens, the good of beekeepers. and a desire to have justice done, impels me to offer my mite of evidence in the case. I make no pretentions to the nicety of discrimination of purity of Italians that some do, yet I have been cultivating Italian bees for ten years, have visited several of the most reliable queen raisers in this country. and purchased queens from others, also imported from four or five different breeders in Europe, and yet I must say that on examining Grimm's apiaries a few days since I concluded they were as reliable for purity as anything I could get either in Europe or America and consequently purchased seventy-two colonies out of Kate's apiary of about one hundred and thirty, of which I think there was not more than fifteen colonies that I could say I know they are not pure. His stock was not the brightest but certainly uniform in markings.

I think Grimm's success consisted mainly in his obtaining an abundance of reliable queens to breed from, and Italianizing thoroughly a large force of bees so that he has less need to be always manipulating with them. I only regret that Mr. Grimm cannot make it suit to cultivate queens extensively for the public. I brought my seventy-two colonies near six hundred miles at an expense of $1.06 each. I had them reshipped at Chicago. I slept four nights in a freight car. Through the day I watched their condition, and found them benefited by receiving half a pint of water each two or three times a day while they were excited. I also kept the outside of the hives and the inside of the car wet to keep them cool. Bees have gathered more than the usual amount of honey from fruit bloom this season.

Cadiz, Ohio, May 12, 1872. R. Wilkin.

* * *

[For the American Bee Journal.]

There has been a very great loss in bees the past winter in this vicinity and north of us. Fully one-half of the bees that were put in winter quarters, seemingly in good condition and with a great plenty of honey (and I think, perhaps, too much) without apparent cause. My bees in the Langstroth hive and others in this neighborhood wintered well. In tall hives, seventeen inches high, with frames I made, thinking them better for wintering bees, I lost five out of seven, and my neighbor, having the Kidder hive, has over two hundred stocks, and lost more than half; and another had eighteen stocks in box hives, and lost seventeen. Fully one-half the beekeepers lost all.

For the benefit of others I will narrate my own experience. After my bees had been out eight or ten days, on the 8th of April, the warmest day of the season, about noon a swarm of bees came to my apiary and entered one of my full hives. Soon I saw my Italian queen come out. I caught and caged her. The bees continued to come out and formed in a cluster under the bottom board, and another queen, nearly dead, having been stung, appeared. I put her back in the hive, supposing the bees would come back before night. Soon another swarm came from my near neighbor's; three came before night.

During this time three of mine left, and the fourth commenced to leave, whereupon I closed them up and saved them. I caught and caged the queens of two hives. Towards evening I took what bees I could get on the outside of the hives and put them in the two hives of which I had the queens, and returned the queens into their own hives.

One is all right, I think. But the other was the next day minus bees. All these swarms had left honey in abundance. Mine had from thirty to forty pounds of sealed honey, and no brood in either of them. Some swarms had left their hives previous to this day, but this day was a perfect stampede, or day of jollification and death in this place. This is a new thing or freak in bee-culture that I do not understand, and is quite discouraging after having successfully wintered them. What is the reasons of their leaving full stores to die? Not one swarm gathered in a bunch, so that they could be hived. Is it possible that the queens were worthless? I lost five stocks in wintering and three by leaving. David Brokau.

Oconomowoc, Wis.

* * *

Ex-Mayor Winthrop of Calais, Me., recently discovered, when removing an old chimney, one of the flues well stocked with honey.

THE AMERICAN BEE JOURNAL.

Washington, July, 1872.

All communications and letters of business should be addressed to

GEO. S. WAGNER,
Office of the American Bee Journal,
WASHINGTON, D. C.

Mr. D. L. Adair, of Hawesville, Ky., requests us to inform numerous correspondents, that he is in nowise responsible for the delay in the publication of the proceedings of the North American Beekeepers' Association. He promptly made out the report of the proceedings, and forwarded them to Mr. N. C. Mitchell, a member of the Publishing Committee, and is therefore relieved from any further responsibility.

We have received several communications attacking the business character of various queen-raisers in this and foreign countries, which we for the present withhold. If upon inquiry we find these accusations to be well founded, we will publish the communications, in order to prevent others from being swindled.

We would warn young beginners in bee-keeping against endeavoring to increase their stocks too rapidly. It will inevitably result in disaster and discouragement. Long experience in bee-keeping will enable the apiarian rapidly to increase his stocks, and when winter comes, have them all strong and healthy, while a beginner will find himself at the close of the season the possessor of a number of weak and sickly stocks, and in all probability will commence the next season with doctoring up feeble stocks, or what is more than probable, abandoning bee-culture, all his bees having died.

We by no means adopt the views expressed in the article "Imprudence of Beekeepers," published in this number of the Journal. We are no believers in monopoly in knowledge, nor do we, on the other hand, fear that its spread will hinder the prosperity of any beekeeper. The teachings of experience are all on the other side. The various articles and discussions relative to bee-culture; the comparison of views, and modes of working in the apiary, as published in this and other journals devoted to bee-culture, have done much, very much to make beekeeping what it now is. We believe that bee-culture has not yet reached perfection, but that there is still much room for improvement and progress in the works of the apiary. Honey is still a luxury, but the time will come when it will be within the reach of the poorest, and the apiary will then prove more profitable than now. Let us have plenty of honest and earnest discussion on bee-culture, and there will be no danger of retrograde movement.

We trust our friends will send us full accounts of their swarming operations; of abundance or failure of the honey product, and any other matters that may fall under their observation during their busy season.

We have received from Messrs. Geo. P. Rowell & Co., a copy of their AMERICAN NEWSPAPER DIRECTORY, for 1872. It is well printed, well arranged, and will prove of great value, not only to newspapers, but to advertisers.

We have received from the Commissioner of Agriculture, a copy of the proceedings of the National Convention of Agriculturists, held in Washington City, February 15th, 16th, and 17th, 1872.

Correspondence.

I have been in this county over two months, and have only found three colonies of bees in the county and can hear of no more. I have scattered over a peck of clover (White, Dutch and Alsike) along the roads and by-places, and intend to sow buckwheat in the next month and then have some of my Italians sent out here. Will write you how they flourish "on the plains."

O. A. A. GARDNER.

Kansas.

Bees have not done very well here this Spring. It is so very dry that we have had to feed all the time to keep them along, but we have had a nice rain and white clover is beginning to bloom, so we are in hopes we shall yet have a good yield of surplus honey. It has been a sad winter for beekeepers, some have lost almost all, and others a good share of their pets, with dysentery, but we will try again, although cast down we are not discouraged and have learned some profitable lessons by sad adversity. We wish the Bee Journal much success; do not see how any one can do without it; know we could not, for every number is worth more to us than the whole year's subscription. We say, Hurrah for Gallup's *big hive!* but think larger frames will beat it; at least we will try the long frames.

C. E. COX.

Hudson, Ill.

The past year has been the poorest for bees in this State ever known, very many have lost every swarm. I saved nine out of eighteen colonies put in the cellar. I left two strong colonies in upright hives out doors (in a bee house), they both died. I have yet to learn of any one in this vicinity who saved as many as I did. I find plenty of honey in the hives, and cannot account for their death. Up to this time, June 10th, we have had but two days this year that bees could fly freely all day.

M. G. PALMER.

Portland, Me.

About three-fourths of all the bees in southern Minnesota died of bee dysentery or cholera in winter quarters or soon after placing them on their summer stands, and many of the surviving stocks are so feeble that it will require much material aid to build them up. Of 137 stocks I placed in my bee house and cellar, I lost 31. I equalized all as nearly as I could, of bees and honey, in September and early part of October.

I found quite a number beside each other on their summer stands that were in every respect as nearly equal as they possibly could be last fall, when I placed them together in winter quarters; this spring found some of said stocks dead, presenting that oft described, loathsome appearance, while their neighbors came out clean as they were in September, with loss of few bees and little honey. Tell friend Novice that he must look for some other cause than *cider mills* for that loathsome disease. Our State does not own a single cider mill and yet the disease has raged here fearfully. All the causes given by our great "bee fathers," are entirely unsatisfactory to me, and I cannot find any satisfactory cause myself.

JOEL BRITTS.

Mantorville, Minn.

With your permission, I will give your readers a few lines concerning bees in this section. I put 155 stocks into the cellar last December. I set them out the middle of February and found them all in good condition, except ten queens which failed. There is no disease here only what is caused by long confinement and improper ventilation. Practical beekeepers have lost heavy here; cause, the want of proper care in wintering. The farmers have lost no more than usual. It would be well for beemen to look more to winter and spring management, and say less about patent humbugs. I am using the Langstroth hive, and find it the best I can use. I keep the Italian bees and find them great workers, but think the queens have mated with a jack, as the bees are very mulish. I would like to unite with the beekeepers in the northwest and establish a honey store in Chicago. It is the only way to keep up the price of honey. I hope all beekeepers will consider the matter and act at once.

S. W.

Bees came out very poor here. Many lost all they had.

THOMAS LASHBROUK

Waverly, Iowa, June 10, 1872.

There are but few bees in this part of the country. The long-continued cold weather, with no day warm enough to give the bees a chance to discharge their fæces without losing their lives, used up a large portion of them. In March they got thawed out, but the weather became cold again before the combs became dry, and the balance of the bees became chilled and died.

L. C. WHITING.

East Saginaw, Mich., June 13, 1872.

[For the American Bee Journal.]

MR. EDITOR:—As facts are what we want, and not theory, I will give you a few facts in regard to wintering bees on their summer stands.

I bought a stock of bees of one of my neighbors last winter, and in the first part of February I moved it home. They were hybrid Italians, in a frame hive 14 by 14 and 14 inches high, single thickness, and a board laid on the top, with cleats nailed in the under side. *The cover had warped up at the edges, till the bees passed out and in freely;* all the protection the hive had from the weather, was a board fence on the north. I examined them a few days after I moved them home, and found they had brood in four frames. It was the strongest hive out of thirty. I lost five stocks that were in double hives with carpet spread on the frames and the honey brand on the top of the carpet. There were more or less mouldy combs in all the hives with carpet on the frames. I believe from what experience I have had, that it is better to winter a single hive on the summer stand than a double hive, as a few hours' sun will enable them to get at their stores. Those that I lost had consumed all the honey in the cluster, and the frost on the combs prevented them from moving far. I believe that if bees can be kept dry, they will never freeze.

As for wintering in special repositories, I think that requires more care than the majority of beekeepers will be likely to give them. I should like to hear from some who have been successful in wintering bees on their summer stands, in regard to the exact amount of upward ventilation necessary. This makes the third poor season for bees in this locality. The drought and cold winter killed nearly all of the white clover. Most of the beekeepers here are sick of the business. I have had over one hundred stands of bees offered to me on their halves, and I keep their half of the swarms, at $2 per swarm. In my last communication I made a statement in regard to bees eating grapes that you seem to doubt. Now if it were necessary, I could bring witnesses to prove that bees have been seen to alight on sound grapes, and in a very short time they would have their suckers under the skin of the grape. I have seen vines loaded with grapes with scarcely a sound one on the vines, and at the same time the bees were so thick it was unpleasant to gather the grapes.

S. W. LOUD.

[From the Utica Herald.]

Bee-Culture.

We give below extracts from an interesting address delivered before the Clinton (N. Y.) Rural Art Association on the evening of June 12th, by S. P. Landers, Esq.:

BEE-CULTURE.

To the naturalist and to every curious observer, a hive of bees, in its best working condition, presents a scene of the most lively interest.

The instructive ingenuity and habits of this little insect have never failed to attract the attention and study of some of the greatest minds in all ages of its history, and no one has ever failed to discover in its being and life things marvellous and almost incredible to believe. But leaving the natural history of the insect out of the question, it is proposed to speak in this paper only of the practical part of bee-culture.

In a perfect hive of bees there are three kinds, viz., "The queen," the mother of the whole colony; "The worker," the producer of the neuter gender, and "The drones," the male bees who take up room in the hive but bring in no honey.

THE QUEEN

is a fully developed female, while the workers are females imperfectly developed.

The queen is impregnated by copulating but once with the drone while on the wing, high up in the air, and in forty-six hours after her fecundation all things being right, she begins to lay eggs, and it is stated by those who profess to know, that she is capable of laying 2000 eggs in twenty-four hours. In the time of Huber, a blind Swiss naturalist of great celebrity, it was supposed that the ovaries of the queen contained regular succession of the different kinds of eggs necessary to produce the three kinds of bees we find in a hive. He made an experiment which proved to him that if the hive contained no drone comb, the queen dropped her male eggs at random and no males were reared, and so if there was no worker comb, she dropped her worker eggs anywhere and no workers were produced.

But it is now the received idea that the eggs of the queen are all alike, and that it is only the different kinds of cells in which they are laid, and the different kinds of food and treatment they receive in their embryo state, that make the three kinds of bees. All eggs deposited by the queen in drone cells become drones, and the same is true of the worker and the queen. The queen has a sting which she only uses to sting another queen. She lives four or five years if no accident happens to her, but in the after part of her life, like an old hen, ceases to be fertile.

The instinct of the workers teaches, then, the necessity of having a queen that will lay eggs so as to keep their numbers good, and they prepare to raise another queen to take her place. This they do by building a queen cell, and if, when the cell is about half done, the queen does not deposit an egg in it, they take an egg from a worker cell and put it into it, and by feeding the embryo queen with royal food, and, perhaps by some other process only known to themselves, the egg that would have been a worker, if it had remained in a worker cell, becomes a queen.

THE DRONE

is the male bee and has no sting—no means of gathering honey or secreting wax, or doing any work necessary to their own support, or the common good of the colony. Like some in human society, they are non-producers, and live by others' toil and industry.

THE WORKERS

are imperfectly developed females, and they do all the work that is done in the hive. They secrete the wax, they build the comb, gather the pollen for the young, and the honey for all, feed and rear the brood, and fight all the battles necessary to defend the colony against harm.

THE ITALIAN BEE

of late has been introduced into different parts of this country and Europe, and much has been said and written about their superiority in every repect to our common black bee. It is claimed that the queen is more prolific—that they can gather honey from the second crop of red clover, and from other flowers that the native bee does not visit—that they are more hardy, less irascible and more easily managed. This variety of bee was accidentally found in a small district in the Alps of Switzerland and northern part of Italy, by a captain in Napoleon's army. In 1855, Messrs. Wagner & Jessop, of York, Pennsylvania, made an unsuccessful attempt to introduce this bee into the United States. In 1858 and 1859, another unsuccessful effort was made by Messrs. Wagner, Coivin & Langstroth.

Later in the same year, seven living queens weve received by the last named gentlemen, but these all perished in the winter of 1860. About the same time Mahan, of Pa., made importations, and subsequently in the same year (1860), Parsons, of Long Island, received an importation of this kind of bee from the northern part of Italy, and from these importations bees have been distributed to the many apiarians throughout the country.

When it is once established that the Italian is superior in the points claimed, the progressive beekeeper very naturally desires to adopt them in place of the black bee. But how can he do it is the question? How can he substitute the one for the other?

To do this, the first requisite is to have the movable comb hive. Without this, it would be almost useless to Italianize a swarm of bees and keep them so for any length of time.

To Italianize a hive is to substitute a pure Italian queen in place of the native queen, and the workers and drones will soon be like the mother. As the process of doing this is so well described by Mrs. Tupper, I shall use her words, as she has had experience in this business. "The queen being the mother of the whole colony, it follows if a pure Italian queen be given them instead of their own, all the bees reared after her introduction are Italian.

TRANSFERRING

bees from the box hive to the movable frame hive is a very simple and at the same time very important process. Capt. Hetherington, of Cherry Valley, who probably keeps the largest amount of bees of any one in the United States, explained his process at the Beekeepers' Convention in Utica, to be as follows: He takes the hive intended to be transferred into a room with the windows all darkened but one. The bees are stopped into the hive and when removed into this darkened room the hive is inverted and a box placed on the top, rapped upon some minutes, and then this alarms the bees and they go immediately to their stores and fill their sacks with honey. Bees when filled with honey will not sting, and this is the object of alarming them by rapping on the hive. After waiting some ten minutes the box on the top of the hive, into which the most of the bees have crawled, is taken off and placed upon the floor with the open side down. The comb is then taken from the old hive and put into the frames and then fastened till the bees stick it together when the fastenings are taken off. Capt. H. fastens by means of the thorns of the red haw put through the top and sides of the frame into the comb, but Quinby & Root fasten by two small sticks wired together, top and bottom, with small wire. This latter method I should think the most expeditious and cheapest. The bees that do not crawl to the drum-box fly to the window, and when all the comb is transferred from the old hive to the frames, the new hive in which are put all the frames with comb in them, is placed directly under this window, and the bees from the box and the window are brushed into it, which completes the operation. At Quinby & Root's I learned that 15 swarms was an ordinary day's work for one man and two boys. If the bees are transferred when there is brood in the comb, it is essential that the brood should be placed together in the new hive and not scattered through it, as a certain amount of heat is necessary to the hatching of the young bees. In transferring, all the drone comb should be rejected, and all the frames should be filled with worker comb, if possible, excepting, perhaps, some corners of the frames which may be left open for the bees to fill with drone comb, which they are very sure to do. It is a great draw-back in the profits of bee-keeping to have ten times more drones than is necessary, which is often the case. They consume the profits of the worker. Without the movable or "leaf hive," this thing cannot be regulated by the beekeeper.

ARTIFICIAL SWARMING,

where an increase of stock is desired, is the only true and safe way. From the early history of bees up to the present time, natural swarming has been, and even is now, the common method practiced. The beekeeper is on the alert when a swarm is expected out, and he cannot leave home to go to church even, for fear the bees will swarm in his absence and be off for the woods. But with the movable comb hive new swarms can be made at pleasure and all swarming can be regulated according to the wishes of the beekeeper. He can have new colonies made, or, by destryoing the newly-made queen cells, he can prevent all swarming. To make a new swarm, take one of the best of the old colonies and put it in a new place, then take frames enough from that and several other hives that are filled with brood-eggs and honey and put them into a new hive, and put this hive where the old one stood. The bees that are away in the fields when the old hive is removed will return to the new hive, and thus a new swarm is formed. If the new swarm can be furnished with a fertile queen or with a queen cell nearly matured it is so much gained, but if not they will raise a queen from the worker eggs they have. But if a queen can be furnished the new swarm, some twenty days are gained, which is very important in the honey season of the year. It is well to keep the stocks equally strong by giving the weak ones comb to brood from the strong ones. Other methods of artificial swarming are practiced, but it is generally allowed that the one here described is the best.

THE PROFITS

of bee-culture, like all other kinds of business, must depend upon the knowledge and attention given to the subject, the price of honey and other contingencies. It is a kind of buisness requiring a good deal of patience and a thorough knowledge of the habits and wants of the bee. It is but now and then we find a person competent or that will give his bees attention enough to realize any profits. The bee is universally neglected and left to take care of themselves, and hence, as should be expected, no profit is realized. During the past winter hundreds of stocks of bees have perished simply for want of trouble to remove them from their summer stands to some comfortable winter quarters. Men that cannot afford to do even this little work for their bees have no reason to expect profits from keeping them. Captain Hetherington, of Cherry Valley, sent to market in one season 25,000 pounds of honey, which sold for $7,000.

"According to the census of 1850, there were produced in the United States and Territories 14,853,790 pounds of beeswax and honey, while that of 1860 is 1,357,864 pounds of beeswax, and 25,058,991 of honey, showing an increase of about 77⅔ per cent."

"Mr. Quinby, in his circular for 1872, states that Mr. Hildreth, of Herkimer, obtained in 1871, from thirteen hives, 1,500 pounds of box honey, and doubled his original stocks."

He also states that Mr. Underhill, of St. Johnsville, obtained from fifteen colonies, six swarms, 1,050 pounds of box honey, and over [illegible]00 pounds of extracted honey.

In his own apiary, he says, during the past year, (1871) of those swarms that he took the trouble to weigh, one filled forty boxes, weighing five pounds each (200 pounds), another thirty boxes. "From one we extracted 220 pounds. Very many others furnished as much more, but were not weighed."

In 1870 one hive furnished 361 pounds of extracted honey. The yield in one week, last of June, was eighty-three pounds.

In my own apiary I have had up to this time only one common box hive, but during the last year I received from eight hives in the spring, and two of them not strong, eight new swarms and 550 pounds of box honey.

But others may keep bees and give them no attention, and their profits will be very small, if they do not lose their entire investment. Bee-culture, well managed, is a good business, but if left to take care of itself, as is generally done, it had better be let alone.

AMERICAN BEE JOURNAL.

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AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

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[Translated for the American Bee Journal.]

Unedited Letters of Huber.

Memoir on the substances which serve for the nutriment of bees and on those which are of use in the structure of their dwellings. (1)

Sir, I do not pretend to give you advice, but in return for the confidence you so kindly repose in me, I will narrate to you two observations which I have made since my letters were published. (2)

Maybe you will think as I do, that they are not without interest, and that it is not to be wondered at that the economical science of beekeeping is yet in its infancy; seeing that to-day that which is most important to know is still unknown.

Distracted by other inquiries, I had given no attention whatever to the various matters which are a source of nourishment to bees, or which enter into the formation of their comb. I thought, as did Rëaumur and all naturalists who have followed him, that the fertilizing powders of flowers were the primary substance of wax, and that the honey served only for the nourishment of the colony. It was not until 1793 that I began to doubt the truth of these two propositions; although they seemed sanctified by time and the testimony of naturalists, both ancient and modern, still I thought I might take the liberty to examine them, and here are the experiments which seemed to me the best suited to throw light on the whole matter.

On June 28th, 1793, I transferred a swarm from a glazed hive into an empty basket-hive, and gave them from 5 to 6 ounces (150 to 180 grains) of honey in a cup. I put into another a wet sponge, and shut them up in such a manner that only air could get to them.

That year the months of May and June had been rainy and cold. For several days the bees on which I was trying this experiment, had not left the hive, and consequently had not gathered anything. Therefore they had no pollen at all on their hair or on their thighs, and as that matter must needs be excluded, I thought this moment favorable for an experiment, which I wished to make with all the exactness of which it was capable.

The first of July the temperature had changed considerably; it was exceedingly warm. I could not see what was going on within my hive, but its opaque sides did not prevent me from hearing very distinctly the noise or cracking sound, which bees make when they are constructing comb. You can imagine my impatience, but I had sentenced the creatures to five days' imprisonment, and I would not free them one minute sooner than that; so that it was not till July 3d, that I determined, not without some fears, to lift up the hive and see if my conjectures had any reality.

First of all I saw that all my honey had disappeared, and I had still greater pleasure in discovering large pieces of comb of the most beautiful wax, placed and made with regularity by the prisoner bees. I might already have concluded, from this observation, that this comb had been made from the honey which I had given the bees when I imprisoned them; but yet there was one doubt in my mind. I was certain that the bees had brought no pollen on their hair into the empty prison-hive, but there was a good supply of it in the cells of the glazed hive which they had formerly inhabited: so that it was possible that they had eaten some of it the 28th of June, the day when I began my experiment, and that this matter elaborated in their stomach, had furnished them with the elements of the wax which formed the combs they made during their imprisonment. To remove this doubt from my mind, another experiment was needed, and here it is.

The hive had been opened and looked at in a room, the windows of which were securely shut; therefore, no bee could have gone to the fields. Attracted by the light they had clustered in a bunch in front of one of the panes of the window. I shook the hive over a table, and thus the bees which remained upon the comb, and also the queen, were forced to abandon it, and joined their companions. I was then able to detach all the combs; they contained but little honey and no fertilizing powder at all. I did not leave an atom of wax in the interior of this hive. I

(1.) The manuscript does not bear this heading, but the title we have here given corresponds with the matters observed by Huber.—(Hamet.)

(2.) The first publication of Huber dates back to 1798. It is entitled: Nouvelles Observations sur les Abeilles, addressées à M. Charles Bonnet, Genéve, 1 vol. in 8vo.

rubbed it with aromatic plants. I filled the cup once more with honey, and I made the bees go in again, and shut them up as in the first instance.

On the second day of their confinement I heard a noise which was a good omen. On the fifth we lifted the hive from its support and saw that the bees had not lost their time. They had constructed in their prison rows of white comb, as regular and quite as large as they had before. Now, I had scarcely any doubt but that the honey with which I had supplied them had furnished them the means to make all the wax which I had found in the hive. For was it not highly improbable that the pollen which they had eaten 11 days before, could have furnished them the elements with which to construct it? But as the fact was very important, I thought myself bound to make a more rigorous demonstration, and for that, it sufficed to repeat the same trials, with the same bees. For if they continued to produce wax, being nourished only with honey and water, there could no longer be a doubt but that the fertilizing powder was useless. Burnens then repeated five times, the experiment which I have just stated; he did it with the exactitude of which he has given me many other proofs, and the result of those subsequent trials was so exactly like that of the two first that it seemed proved, to us at least, that it is from honey that bees make all the *wax* they need.

What then is the use or those fertilizing dusts which the bees gather so eagerly? You know sir, that they interest them to such a degree that the weather must be very bad to keep them from this work.

M. de Réaumer has estimated the amount of pollen brought in yearly by a hive of ordinary strength, to be from 16 to 18 lbs. at least. (I perhaps mistake about the quantity, not having Réaumur at hand) and even should his calculations be a little over-rated, it would be no less clearly proved that it is a substance of primary necessity to the bees; thus you will not wonder at my desire to get at its true use. At first, I thought that the workers fed on pollen, and that it was to satisfy their appetite, that they sought for this agreeable and necessary aliment. I have taken the small balls of pollen from the legs of bees and found them of a sweet and tartish taste; they would have made a very good preserve, had they not left upon the tongue an impression resembling that which fine sand would have made. I needed new experiments to verify my supposition, and the following occurred to me:

July 13th, 1793, I placed a small swarm in a glazed hive; in it was placed a piece of comb full of pollen, and in addition to this, some cooked fruits so that the prisoners should not die of hunger, in case the pollen should not avail them for food. I shut the hive and made sure that only air could get to them. We watched these bees during three days. We often saw them lick the fruits we gave them, but never saw one plunge his proboscis into the cells which were full of pollen, and, in fact it did not seem to have any attraction for them. These bees had formed into a cluster in the top of the hive. On the 17th we disturbed this cluster with a feather to see if it did not hide some comb, but we found nothing, and we could guarantee that the bees had not built a single cell during their captivity. From this observation I could already conclude that the workers do not feed on pollen. It corroborated the former experiments, at the same time proving in another way that they did not find the elements of their wax in the dust of the stamens. This gathering of pollen then was for another purpose, and if it was not for themselves that the bees collected it during 8 or 9 months of the year, it must then needs be for the young bees of which they were not the mothers. Accordingly I sought the means of obtaining some light upon so interesting a subject in the history of these insects; the following experiment taught me what I did not know. You will be glad to have me state it in full.

I had a swarm in a leaf hive, the two small ends of which were of glass. July 17th, 1793 Burnens examined this hive thoroughly. His intention was not to leave a single cell which contained pollen. Therefore he scrupulously cut out all the comb which contained pollen and put in its place cells which contained honey only.

This hive was goverened by a young queen. I had prevented her from going out to seek the drones, and hence she was infertile when I commenced this last experiment. As there was no brood in her hive I was obliged to take some from another hive which was abundantly supplied. Burnens placed this brood in the first and second frames of the hive which had none. Then he took away the virgin queen and gave her to other bees to take care of; then he closed the hive with a grating which admitted air only. He resolved to observe the conduct and actions of the prisoners in these circumstances. On the morrow we saw nothing which we deemed extraordinary: the brood was covered with bees which seemed to be taking care of it.

On the 19th after sunset, we heard a great noise in this hive. We opened the shutters to see what caused it. The bees seemed to us to be in the greatest agitation; those which we were able to see, were running about in great disorder over the combs; the majority of them had abandoned the combs and had let themselves fall on the floor of the hive, and some were gnawing at the grating which prevented their exit.

They were so anxious to get out, that I feared lest a great number of them would die if we did not allow them to go out, and as they could not at that late hour go to the flowers, we gave them their liberty. All the swarm availed themselves of this, and for more than a quarter of an hour flew about the hive; afterward they re-entered. We saw them climb up upon the comb, and order was completely reëstablished; we seized this opportunity of shutting them up.

First we saw that the queen cells had not been continued: there was no worm in them and we did not discover an atom of the jelly which serves for bed and food to the larvæ destined to become queens. In vain too did we look for worms, eggs, and food in the worker cells; all of it had disappeared.

(TO BE CONTINUED.)

A Curious Remedy for Bee Stings.

The Rev. W. C. Cotton, in his beautiful work, entitled "My Bee Book" (London, 1842), republishes a very quaint treatise on bees, by Robert Sydserff. In his preface, dated 1792, Sydserff says: "There is not in the whole book one page, nor even a line, which I do not know or have not reason to believe to be true; but as part of it may appear to be strange to ignorant persons, who know nothing of the nature of bees, the several facts are attested on the leaf immediately preceding the first page of the work, by persons who were eye witnesses to the same, whose characters are too well known to admit a doubt of their truth and reality."

Our readers will be interested in the truly heroic remedy proposed for curing bee stings:

> "With respect to the poison which is left in the wound, from more than thirty years' experience, I have the greatest reason to believe that *the sting of one bee serves to mollify, prevent the swelling, and in effect cure the sting of another.* Innumerable instances have I known, which have confirmed me in my belief; two or three I will set down here, for the reader's information, which I think may serve for the whole.
>
> In the year 1761, my brother, John Sydserff, who was then a child in coats, went into my father's bee garden, where a hive of bees lay out very big; the child having a stick in his hand, hooked down part of the bunch, when the bees immediately fell on the child, and for want of thought, he made no attempt to run from them, but stood still, crying vehemently. At that time I was at work in my father's chamber, and calling to my mother-in-law to know what the child cried so violently for, she ran to see, and no sooner came into the garden, than I heard her exclaim so loudly that I could not hear the child's cry. I ran as quickly as possible into the garden, and saw the mother running about and grasping the child in her arms, and endeavoring to save him from the furious bees. On seeing me she cried out, 'The child is stung to death;' and as she also was stung very much, so I did not escape being stung in several places, only in taking the child from its mother and running with it into the house. Many bees followed us, and I believe that more than a score were seen flying up and down the glass of the window on the outside, in less than half a minute. I found several bees entangled in the child's hair, and to prevent their stinging him I pulled them out in a hurry, bees and hair together.
>
> As soon as I had extricated the child from the bees, my next work was to pluck out the stings that were to be found more or less from head to foot, but all over the head they greatly abounded. Several I pulled out of the tongue, and thirteen out and off one of the ears. Immediately applying to Mr. Robert Grimstead, apothecary, for advice, he said he could not tell what could be done, unless I was to anoint him all over with sweet oil. This I did as fast as possible; but I believe that it did the child neither good nor harm. The effect of this disaster was that he looked pale and appeared to be sick, but there was not the least sign of any swelling. Soon after this he fell asleep and lay sleeping in his mother's lap for several hours; and about ten o'clock in the evening (to the joy and surprise of his weeping parents), he opened his eyes and appeared to be perfectly recovered. We all went to rest for the night, and not a single complaint was heard of afterward.
>
> From hence I take the opportunity of observing, *that if I am stung by a bee on the face, I generally swell almost blind;* if on the back part of the hand, the swelling ascends to the tips of my fingers; but if I am stung by two bees near the same place, the swelling is not so much; *and if I am stung by ten or more bees, the swelling is very little, or none at all. I would not of choice be stung by them, if it can be avoided; but after I have been stung once, I have no objections against being stung twice; and after I have been stung twice or three times, I do not mind if I am stung fifty or a hundred times.*
>
> Some will be ready to say what I here assert is very unreasonable. It may appear so to those who have not proved it, but if I did not know it to be a matter of fact, I should not relate it. . . . .
>
> But as a farther proof of the above, in 1780, in taking an old stock of bees for Thomas Horner, Esq., in Mell's Park, out of an high ash tree, I was stung to such a degree that my flesh was as tender as if cut with lancets, but without any appearance of swelling; and as I had to rise the bees in the garden (which lay out very big), I went the next day to do it, and I felt such a fear of being stung again as I never felt before for upwards of thirty years. This was observed by Mr. Forbes, the gardener, who told me that I was more afraid of the bees than he was, which I believe at that time was true; but as Mr. Forbes was a stranger to what I then felt, it is not improbable that if he had been stung but half so much as I was the day before, he would have been afraid ever to have gone into a bee-garden more. However, as I expected no pay unless my work was completely done, I raised them up, and was again stung severely from head to foot. *But what was my surprise when I found these fresh stings to be of very great service;* the pain I felt was removed almost instantaneously, and the tenderness of the flesh, very soon passed off. On the third day I made new hackles and plastered the bees round to the satisfaction of my employer; and in doing this also I was stung very much, but these stings had not the least effect upon me, and I felt nothing of them, only when pricked by them.
>
> Another proof I shall mention was in 1793, in taking a swarm out of a tree for farmer Luke Ashman, of Leigh on Mendip. After I had handed out the greatest part of the bees without finding the queen, I was obliged to search every small hole where my hand would not go, with my fore-finger. By this means the finger was stung to such a degree, that William Tapp, who attended me, did often take out three stings at once. When I had done, I asked him how many stings he thought he had taken from the tip to the first joint of my finger. He told me they were out of number. I then asked him if he thought he had taken out thirty. Yes, said he, and more than twice thirty. *I must observe that this finger felt a little benumbed, but no way tender or swelled, nor had it the least appearance of being stung at the first; but for days after black specks appeared in the skin. Upon another of my fingers I was stung by one single bee, which made it swell greatly and was very tender for several days after.*
>
> Another proof I met with in the year 1784, which is the last I intend at this time to mention. It was on the 19th of May, in taking a swarm of bees out of a high elm tree, for Mr. James Fussell, of Mells, when I was stung on my fingers and on the back of my right hand, in nearly twenty places. On this hand there was not the least appearance of swelling, and very little tenderness; but on my left hand, which was accidentally stung by one single bee, the sting of this one bee caused my arm to swell to such a degree, that

I could not, without some difficulty, take my coat off in the evening. The next morning I had greater difficulty to put it on, and my arm was very tender for several days after. *From these circumstances I formed a resolution never to be stung by one bee alone, unless another cannot be had.*

Many more observations of the like nature have I made the last seven years past, and can add with certainty that the more I am stung the less effect I feel from it. . . . . . Many have asked my advice when stung, and I have always recommended, THAT ANOTHER STING THEM NEAR THE SAME PLACE, AND ALL WILL BE WELL. One in particular, who attended me at times for many years past, in taking bees out of trees and other places, when stung on the face asked me what he should do, and exclaiming he should be blind; my advice has constantly been, as I have just said, that another bee sting him near the same place, and he will swell very little or none at all. But though in many respects he is a man of uncommon boldness and will climb a tree of any height, and put his hand into the hole of the tree among the bees, the same as into a bird's nest, yet sooner than take my advice, and make use of my infallible speedy medicine, he will be content to be swollen almost blind, and go blinking like an owl, for near a week together."

Poor Sydserff, with his infallible remedy, seems to have been unable to make a convert of one who had the benefit of being an eye witness to its marvellous efficacy; and it is not likely that his zeal will make many converts among modern beekeepers. We can easily conceive how small the demand would be for movable comb beehives, if the art of subduing the bees by smoke was as little known to the present generation, as it seems to have been to him. While few will attempt to cure bee-stings *Sydserff fashion*, many will agree with him that the pain and swelling from a single sting is often more severe than that caused by many.

L. L. L.

[For Wagner's American Bee Journal.]

Do Italian Bees Gather more Honey than Black Bees?

In reply to Mr. Bingham's indictment against the Italian bees, in the April No. of the Journal, we give some facts which occurred in our own apiary, and which convinced us that under some circumstances, the Italian bees gather more honey than black bees.

In 1860, the first year that we had any practical experience with the Italian bees, we had twelve swarms of black bees early in June. To three of these swarms we gave, when hiving them, Italian queens, procured from the apiary of Mr. Parsons, of Flushing, who had just introduced this variety to the American beekeepers. The hives were tolerably well filled with combs, built by the black bees, but before the young Italians began to gather stores, the honey harvest was nearly over. In August, owing to poor health, we not only made no observations, but could not be persuaded even so much as to visit the apiary. A member of our family, however, noticed that while the three colonies with the Italian queens seemed to be working vigorously, the other nine were doing little or nothing. In September we were able to open the hives, and found that *while the Italians had gathered a sufficient supply for wintering, the best of the others had only a few pounds.* The honey in the black colonies was so scattered that we were compelled to break them all up, adding the bees to other stocks. The Italians wintered well, and the next season we obtained from them about 350 pounds of surplus honey in the comb, and one large swarm.

We were not able to determine that year from what sources, unvisited by black bees, our Italians obtained their honey, but have since then felt satisfied that it was mainly from the second crop of red clover. While in some seasons this yields little, if any honey, in others our Italian bees have been able to build new combs and fill surplus boxes from this source, while the black stocks in our vicinity were actually losing weight.

We have little doubt that when honey abounds and superabounds in the nectaries of the blossoms, black bees will gather almost if not quite as much as Italians; but when it is scarce, and only to be procured by extra hard work, then the superiority of the "yellow bee" is very manifest. It will carefully search for such blossoms as have the shallowest petals, and will labor long and vigorously for only a small load.

When Mr. Parsons first procured this variety from Europe, he published the statement, then current, that the Italian bee had a longer proboscis than the black. This assertion was soon withdrawn; for it was found by most careful microscopical measurements of numerous specimens submitted by us to Professor Joseph Leidy, of Philadelphia, for that purpose, that the *average* length of the proboscis of the Italian bee was the same as that of the black variety.

Our experience that first season with the Italian bees has been repeatedly confirmed in our own apiary, and we could quote that of many others, if it was thought necessary. We will only refer to that of Gunther, the well-known assistant of the Baron Von Berlepsch, and to that of Mr. Robert Bickford, of Seneca Falls, N. Y. The former says that he found the Italian stocks were increasing in weight at the very time that the black stocks were growing lighter; and Mr. Bickford says he was not convinced that Italian bees were on the whole better honey gatherers than black bees, until a bad season demonstrated in his own apiary their very great superiority.

L. L. LANGSTROTH.

To Stick Combs in Boxes.

Cut them up into pieces of the proper size. Then stand near a stove-lid or any other iron plate, moderately hot, with the box in the left hand, held properly, and taking hold of the comb with the right hand rub the edge that is intended to adhere on the warm plate till a portion is melted, then clap it suddenly to its place in the box, when it will stick as well as if waxed with a brush.

S. SCOTTON.

Richmond Ind., June 28, 1872.

[For the American Bee Journal.]

Novice.

DEAR JOURNAL:—We have had a very busy month since we last wrote you, and many little successes and some reverses.

Honey came in steadily until just as the basswood began to bloom, when the extreme drouth prevented our index scale from showing more than one pound per day, and then ¾, and now, July 10th, only about ½ pound increase in twenty-four hours, although the basswoods are loaded with blossoms. This may change it, as the blossoms in the dense forests will last nearly two weeks longer, and our usual hopeful disposition prompts us to look for better things before the season ends. We have filled 9½ barrels of very thick honey, for which we are offered only 13¾ cents, delivered in Cincinnati. This seems a small price, but after all we think it much better than 30 cents for box honey.

By the way, how many of our friends are having trouble with leaky barrels? Just listen, and we will tell you a remedy. We don't want any 25 cents either for the information, nor in fact all the information we can give on any point, unless it be a stamp for postage, even if much time and many experiments have been made. What successes we achieve are freely at the service of our beekeeping friends, and all we ask is the benefit of their experience likewise. We have no fear that too much honey will be produced, or that the price will go too low. Now, then! Leaky barrels.

Make your barrels clean and *dry*, even leaving them in the sun a few hours before you drive the hoops on closely will do no hurt; and then pour in at the bung, quickly, about a gallon of melted wax, *boiling hot.* Now put in the bung, spin on one end and then the other, roll it over, pour out the wax, and if you have been quick only from ½ to 1 pound will be used and your barrel is as tight as a glass bottle, and the honey is kept pure and sweet in the receptacle that nature furnishes. The heated wax expands the air, forcing the hot wax into all crevices, as you will see when you draw the bung with a report like a bottle of soda. If you wish to see how neatly it does the work, look inside with a bit of looking-glass. We put two coats of paint outside, and then we have some honey barrels that it will pay to keep, so we shall always have them returned when we ship honey.

To be sure that the honey is free from dust, flies, etc., we make a little sack of cheese cloth, which is dropped into the bung hole as far as a wire ring, a little large, will allow it to go. The ring is sewed around the mouth of the sack. The faucet, or rather the molasses-gate, from the Extractor runs the honey into this, and when we stop work the barrel is closed to flies, &c., but is always ready to resume work.

And now about Extractors.

We really feel it a duty to give the result of some experiments, even though it should result in loss to a few individuals ourselves included. Most of our readers know that our first extractor, made about six years ago, revolved the combs inside of a stationary tin can. This we have always used until last season, when Mr. Peabody sent us one of his, and we liked their appearance; we sold a number, and in fact finally sold sample and all for accommodation, before we had used it more than one day, and went back to our old one This season we sold the old one for $10, and fixed a Peabody so that it would strain the honey and run it into the barrel, as we supposed, in the best manner. Very soon our assistant complained of being tired, and finally that the Peabody machine would require a strong man to work it, and insisted that the labor was very much greater than our rude old machine.

"But it is balanced on a pivot, just see how easy it turns!" said we.

"Exactly, Mr. Novice, but do you not see that much power is required to get up the proper velocity and then much more power required to stop it quickly, which I must do when you are bringing the filled combs at the rate you do now? Give me the old machine and I will keep the full combs out of your way."

Theories wouldn't do there, Mr. Editor, so we looked for the cause. Gray & Winder's geared machine was then tried. The longer lever gave more power to stop and start the machine, and really requires less labor to turn up to the proper speed, but is so much less convenient in placing and replacing combs that we should hardly decide it more desirable. The trouble with both, and all *revolving can machines, is, the momentum of so much metal, combs and honey,* for the honey too is revolved until the machine is stopped.

Now, then, dear readers, our old machine was only a light wire frame, and very little power brought it up to the required speed, and so soon as the honey flew out it struck the side of the stationary can, so that the machine when it had relieved itself of the weight of honey, could be stopped with little effort *at once*, and without any serious shock to the machinery, or that "piece of humanity that supplied the motive power."

Mr. Editor, did you ever observe a woman doing housework and the way in which she would make the implements and utensils play and accomplish more in five minutes than we "lords of creation" could in an hour? Well, this is only possible with light machinery; ponderous, awkward implements cannot be made to "travel" at times.

We got ahead with our work the best way we could, and then with some strips of thin tin, folded for strength, we made a light, strong square frame, just large enough to hold two Langstroth frames 10 inches apart. Made a can large enough for it to revolve in, on a steel pivot at the bottom, and the gearing from a cast iron paring machine at the top to turn it by; fixed it so that the honey was delivered just at the proper height to run in the bung hole of the barrel, and the first trial brought forth an exclamation.

"Was it possible! that so little effort removed all the honey from a couple of combs." Since then our combs have been emptied with a speed and ease that is utterly impossible with other machines. Any child can turn it, and the only caution is to take care that you do not go so fast as to throw brood and all out of the combs. We think it will pay to make your extractor only for one sized frame, in order that you have no useless metal to swing, and if we were to have several kinds of hives with frames of different sizes, we should have an Extractor just as small as it could be for each.

We have one thing more that pleases us. Who has not seen heavy ladened bees drop before the entrance of their hives and be obliged to take wing again before getting in? Even crawling up to the edge of the bottom board to the hive seems beyond their power, so we studied long and earnestly to get a simple, sure and effective door-step, and here it is, as it suits us. Saw off lengths of pine siding equal to the width of your hive, but before doing this, with plane or saw make one edge with sharp bevel, so that it will set close to the upper edge of the alighting board of the hive, when the other rests on the ground or sawdust. To keep this always in place, bend pieces of wire 2 inches long twice at right angles, so that one arm may be about ¾ and the other ¼ inch in length. Drive the long arm of two of these wires into the end of the door-step, close to the sharp edge, and when the short end is driven or pushed into the hive, our door-step is kept up close, and is hinged so that it will always rest on the ground. We prefer to saw into the step a little where the wire is driven, so that it will be fixed in the step and turn on the short end that is in the hive. These are readily removed when not wanted, and we think the number of bees crawling up them, (they should not be planed) during a yield of honey, would convince any one of their efficacy. See page 28, vol. 7. If spring scales tell the truth, a door-step, certainly *paid* them.

If Mr. Gallup don't stop being cross (see page 12) we shan't play with him. So, now! Mr. Gallup, are you sure there *is anything* you have been trying to get into our head after all. We really fear that you have made it necessary for us to tread on somebody else's toes *besides* the men who make the extractors. Send 25 cents for Progressive Bee-culture! Is that what you tell the rest of your pupils?

Bless your heart, Mr. Gallup, we "don't never send" 25 cents nor 50 cents nor $1.00 for such things. We get Beehives, Extractors, Patent Rights, books and papers piled all around us "an' we don't pay nothin' neither." If we scratched our head to understand all of 'em our better half should mourn more about our getting bald headed "so early in life" than she now does.

Mr. Adair sent us Progressive Bee-culture a long while ago, when first out, with the request that we should take time to look it over carefully and give it such criticism as we honestly thought it deserved, either in the Journal or by letter. This was kind and frank in Mr. Adair, and so we refrained from taking any notice of the work, because in our *honest opinion* it was a strangely mixed compilation of truth and error, containing strong, positive and sometimes almost harsh statements that our American bee-keepers will see the fallacy of at once.

For Mr. Gallup and Mr. Adair both, it is a fact that we have now a host of clear, sharp, intelligent men, who read our journals, and who can no more be led astray by false reasoning than those who have studied bees years *longer* than they have. Our soundest thinkers have no time to theorize and argue the matter. We have looked over Mr. Gallup's articles in vain to understand what great idea he has discovered, and he is right in saying, "we don't see it at all."

In his last article we do gather this, and we presume it is the "Adair" new idea: "That the queen prefers to keep her brood at the bottom of the combs in midsummer."

I would quietly ask the thousands who are using the Extractor and two-story hives, if this is so. If Mr. Gallup is writing for our benefit, why does he speak as though we had not tried giving a good queen room? Five years ago, we, almost alone, recommended the use of the Extractor constantly, to give the queen all the room she could use, and we have worked not one hive but from 40 to 60 and each has been most carefully studied. We are testing now a genuine Gallup hive, and cannot see that it works differently from what we had been lead to expect. To prevent misunderstanding, we distinctly state that we have no idea that either gentleman meant to mislead, but have dwelt so long on some pet arrangement that they do not see clearly. When Mr. Gallup presents as a "new idea" that the queen will raise more brood and there will be less likelihood of swarming by spreading the combs out horizontally, instead of the usual two-story, we think he has fallen into an error, but it will soon be tested in many different localities, so we will not disagree about it.

When Mr. Adair claims that by the same "new idea" (so Gallup says, not Adair) a colony can be made to gather as much honey and build the comb for it, as they would with empty combs constantly furnished them, we think he has fallen into a still more grievous error; but as we said before there are many clearer heads than Novice's to decide the matter, as they have others many times before. By the way, will not Mr. Gallup come around to shallow hives soon again.

In regard to box honey. We have this season one of Quinby's large frame hives with a full set of boxes, which was sent to us with the request to give it a fair trial. One of our best stocks was transferred into it in April, and a part of the combs from two hives were used to make the large frames all full. Of course the bees filled the combs with honey and sealed it all up, and then after waiting a length of time that enabled other stocks no heavier to give the Extractor more than 100 pounds, they finally commenced in several boxes, but have not up to this date more than one pound in boxes altogether.

Another stock that we compelled to fill some English vases, swarmed out twice, and then only went to work in earnest after we had given them another set of empty combs in place of all their honey and brood.

There has been no disposition to swarm at all in any of the other hives, over 60 in all, yet they are full of bees, and the queen lays in the upper combs as well as below, as they do every season; nor do we remember that they ever objected to so doing. We doubt if our locality could furnish 100 pounds of box honey from one colony, but it *has given* over 300 pounds of extracted honey. With the hope that some little item in this long article may benefit somebody, we remain as ever, yours, NOVICE.

[Translated from Kleine's Central Blatt.]

Queenlessness in Box-hives.

If a parent-stock is found to be queenless in the spring, having worker brood already, and also drone brood, it will be able to help itself, because it can rear a queen out of the worker egg. The bees will transform a worker cell, containing a worker egg or larvæ, into a queen cell, by widening and lengthening the worker cell. Such cells are usually placed upon the centre of the comb, and have the appearance of a compressed acorn.

If the stock at the time it happens to become queenless is full of bees, it may in from 10 to 16 days after the young queen has emerged from her cell, send forth a swarm, very often an after swarm. But should 3 or 4 weeks elapse before the young queen is hatched and fertilized, during which time the production of brood in the hive has entirely ceased, then will the stock fall much behind the others in the apiary, and the need of aid will be very great. This is also the misfortune, when the young queen is lost on her bridal trip, and the stock is not in a condition to save itself, having no worker brood of the proper age from which to rear a queen. Such a stock is in a fair way to destruction, unless the bee-keeper is in a position to aid it. And he is only in position to do this, should he have any reserve queens. The breeding and retention of reserve queens is not alone necessary to guard against queenless stocks, but also as a guard against many other mischances in the apiary, hence the breeder is advised to have on hand a certain number of young queens, corresponding to the number of his stocks. Here it may be well to make some remarks for the benefit of those who have not been engaged in the rearing of reserve queens.

Small basket hives can be used in queen breeding just as readily as box hives. As these hives are used alone for small stocks, their size should be about 7 inches, or 17 centimeter high, 4½ inches, or 11 centimeter wide on the outside, and of the same depth, so that they may contain three or four combs and an inner wood or glass door.

The time to begin queen rearing is as soon in the spring as the parent stock begins building drone comb and filling them up with eggs. You proceed in the following way: You choose from among your stocks one very well stocked with bees, especially *young* bees, and containing a large number of eggs, drive out a portion of the bees and place them upon the old stand, these bees being mostly old ones and of no use in queen raising. Now drive out a second time, when you will obtain mostly young bees, among which search for the queen. If you find the queen among these bees, remove her and place her with the bees first driven out; however, cut out first some comb containing eggs and brood, the parent stock now must be placed on its old stand.

The small box must now be quickly disposed of. Before the bees were driven out, one of the frames of the nucleus box should have placed in it a comb of sealed honey, another should be filled with empty comb, while the third should be retained for the brood cut from the parent stock, securing the combs with twine, in such a manner that they may neither wabble nor fall out. After the bees have secured the combs, these strings can be removed. These three frames are carefully placed in the box containing the driven out bees. The entrance is now closed with a piece of wire cloth or linen. When a sufficient number of bees have taken possession of the brood comb, it is carefully removed and placed in the box between the two other frames.

In case the bees refuse to take possession of the brood comb, fill the box with them, close it and place it in the dark for 2 or 3 days. In the same manner the second and third, &c., queen rearing hive is formed until all the bees driven from the parent stock are utilized. What remain over are returned to the parent hive. After two or three days the nuclei are stood out or hung out and the entrance opened. Should more than one queen cell be started, when they have been sealed shut, cut out the supernumerary ones and start new queen rearing hives, in which instead of brood, one queen cell is placed.

These nuclei require frequent attention, to see whether the queen deserted, whether it is healthy, whether, when on its bridal tour it was lost, whether it is fertile and has began to lay eggs. In the latter case, the queen is ready to be placed in a strong colony and this should be speedily done.

The breeding of reserve queens is very troublesome and requires a great deal of time, but its very great utility outbalances by far all these disadvantages.

Should it happen that a strong stock, capable of being divided should become queenless at a time when fertile queens were in the possession of the apiarian, the best advantage is to be taken of it in this manner:

So soon as you are convinced that the parent stock is queenless, you drum out a small swarm, say one pound of bees, place them in an empty box or basket, and give them a fertile queen from the reserve queens, secured in a queen cage, and place them on the stand of the parent stock, removing the latter to another place. Does the swarm accept the queen, which is soon discovered after the elapse of one, two or three days, if it does not appear sooner, the bees should be allowed to free the queen themselves, the bee keeper having placed over the entrance of the queen cage a thin piece of wax, which the bees will eat away and thus release the queen. If the queen is free, the swarm is allowed to remain in the empty basket or box for one day, so that the queen and bees may become thoroughly accustomed to each other. Now drive out for the second time the queenless stock, and give this swarm a fertile queen from the reserve queens.

The now almost empty parent hive needs attention, and all queen cells must be destroyed. The first swarm with its freed fertile queen will now be returned to the parent stock, and placed on the old stand. As this swarm has maturing brood in abundance, and the queen begins to lay immediately, under judicious management the swarm will increase so rapidly as to send off another and sometimes a second.

After the second swarm has accepted the queen, it can be placed upon a hive ; in case that is not in a position to be used, the swarm is left in the empty nucleus box, which is somewhat screened from the sun. As this swarm has also a fertile queen which will begin immediately to lay eggs, it will in a few weeks be strong The beekeeper has thus at least two strong swarms.

The cause of queenlessness in the parent stock is either occasioned by over-swarming or by the loss of the queen on her bridal trip. If the beekeeper has fertile queens at his disposal, the trouble is speedily remedied, as such a stock will instantly accept a fertile queen. It can be immediately released among the bees, yet it is best, first to cover the queen with honey, so that she will be cleaned by the bees and thereby attain the scent of the hive. If the beekeeper should have no fertile queens, it is best to give the queenless stock a small after-swarm, having a good queen.

Should a stock become queenless, and have as yet built no combs and have no brood, it will either return to the parent stock from which it came, or enter a neighboring one, unless it be immediately supplied with a queen. After-swarms must be carefully watched, and immediately on their becoming queenless, supply them with a fertile queen in a queen cage.

Far more dangerous is the loss of the queen by a first swarm, than that ocasioned by too frequent swarming or by after-swarm. To get them to accept a queen, will often require a great deal of trouble. An unfertile queen will on rare occasions be accepted ; they even for a long time will show hostility to a fertile queen, while they have any brood from which to rear a queen. In such cases it is very necessary to drive out the bees, place them in an empty box and let them in it so long, until they are willing to accept the proffered fertile or unfertile queen. The combs containing brood must be placed with another stock having a queen, otherwise the brood would be lost. If you have no swarm to dispose of in that manner, drive out only the larger portion of the queenless stock and give them the queen, leaving in the hive bees sufficient to warm and care for the brood. When the driven out swarm have accepted the queen, drive out all the bees remaining in the parent hive, and unite them with the others, and place the united stock on the old stand, taking care to destroy all the queen cells that may have been commenced.

HEMME.

Defective Queens.

Just as disadvantageous as queenlessness is a defective or imperfect queen. A queen is defective or imperfect when she lays no eggs, barren ones, few worker and drone eggs, or drone eggs alone. The barrenness of a queen has its origin in either sickness, or some internal imperfection which will render impregnation and the laying of eggs impossible.

Partial unfruitfulness is thus caused ; either the queen, owing to age or sickess, lays but few worker eggs mixed with drone eggs, while the masculine semen by which the eggs are fertilized, has exhausted itself ; or, with a young, defective queen, the impregnation has remained imperfect owing to some defective organism.

A drone-producing queen, is caused either by the masculine semen being exhausted, or, when a young queen has never been impregnated. This last arises from several causes. When from long continued unfavorable weather, or some physical imperfection, as lameness, a crippled foot or wing, &c., the queen is hindered from flying out ; or the queen may fly out at an inopportune time, when there are no drones, as early in spring or late in fall.

The causes of defectiveness in a queen are in part external. Therefore every queen should be carefully examined before being given to a stock. Should it have any defect whatever ; does it want, for instance, an atenna, a leg, etc., or even a portion thereof, it is best at once to dispose of her. With already impregnated queens, an outward deformity will not involve total unfruitfulness, but as a deformed queen will never be as useful as a well formed one, it is always the most advantageous course to substitute for such a one a sound one.

In basket or box hive bee-culture, one seldom sees the queen, so cannot always judge as to its external deformities. Besides, mere outward deformity is not a positive sign of the imperfection of the queen, as she may have some internal deformity which will render her unfruitful. You can always judge safely as to the defectiveness of a queen by her brood. Is the queen entirely unfruitful, then the stock will have no brood. Queens producing barren eggs, lay them continuously, but they never develop ; they are removed by the bees, but to be replaced by the queen. With such stock eggs alone will be found, but no larvæ or sealed up brood.

Is the queen only partially unfruitful, you will find worker and drone brood mixed together, and as drone larvæ in developing has not room sufficient in the worker cells, the bees lengthen them when the larvæ commence spinning the coccoons, and place a large cover over them, while the worker brood lies much lower and is more regularly covered. The brood has an uneven appearance.

With a drone laying queen, drone brood alone is found in the hive. The brood is close together, or in most cases is uneven, and has the appearance of the above mentioned brood. It is easy to distinguish between the drone brood of a drone laying queen and that of a queenless stock.

In the latter case, the brood is from a fertile worker.

Worker bees have incomplete sexual organs, incapable of impregnation, but often in condition to produce unimpregnated or drone eggs. A fertile worker is called a quack queen. She places her eggs usually in drone cells, where they can be had. You often find in one cell from 8 to 10 eggs, in a very irregular mass, often hanging on the edge of the cell. The bees nurse the drone brood alone, hence, a colony containing a fertile worker is thus easily to be told. A colony having an unfruitful queen from either of the above-named causes, must, just as a queenless stock, go to destruction, as the working force is daily diminishing, with no corresponding reinforcement from the brood. Often such colonies will furnish food for robbery, which will readily spread to the other colonies.

As defectiveness of queens is generally found in afterswarms and swarming parent stock, it is necessary to give them the closest attention, and if possible, to watch the development of the brood. Should, with such colonies, an imperfect queen appear, there must be no neglect in remedying the evil. This is very easy. Drive out the swarm, remove the imperfect queen, and give them a sound one. The bees will readily permit the change, as they instinctively know that it is the only way in which to help themselves If you are able to give them a fertile queen at once, by daubing her with honey, you can throw her among the bees, and she will be safely taken. An unfertile queen should be kept in a cage for several days before it is freed. If you have no queen whatever, the bees should be set to queen raising, or used to strengthen weak stocks. The building of a hive containing a defective queen or a drone laying one, is much aided by decapitating the drone brood.

A colony containing a fertile worker is very difficult to cure, as the fertile worker is so difficult to distinguish from the other workers. The bees will cling so strongly to such a supposed queen, that they will destroy every unimpregnated young queen presented to them, and will even kill a perfect queen. The safest plan to adopt with such a stock, is to unite with them a small swarm having a good, fertile queen. The fertile worker will be supplanted by the workers of the added swarm.

Nienburg. HEMME.

[For the American Bee Journal.]

The Langstroth Hive.

I have been asked by over one hundred correspondents for my opinion on the Langstroth hive, spread out so as to contain the necessary amount of room on the ground floor, and thus do away with any necessity for the upper story. Now I have never tried it for myself, but *cannot see why* it will not work when properly managed. I will now refer the reader to vol. vi, No. 11, page 255, SIDE GATHERING HIVES, by Mr. Salisbury, Camargo, Ill. Mr. Salisbury is an experienced and practical beekeeper, and we can certainly rely upon his testimony. My largest twin hive was sixteen frames in width, and the results were entirely satisfactory. Allow me to make a few suggestions, not for the benefit of the practical beekeeper, but for the benefit of the novice. Make a few hives of double width, and try the experiment for yourself. Place a strong colony or stock into the centre of the hive, comb and all, using two division boards, one on each side of the comb. This confines the bees to the standard size for the time being. Now as soon as the weather comes right and the bees populous enough, remove these division boards, fill up each side with empty comb, or if you wish to make the stock extra strong, place in some maturing brood from other stocks; in the meantime, remove mature brood from the centre of the stock to the outside, substituting empty worker comb, so as to give the queen abundance of room in the centre for breeding purposes, and thus check swarming; for if attended to just right, and the keeping out queen cells, it will be apt to prevent swarming entirely; use the extractor freely, for if the bees fill up this substituted centre comb with honey, your object is not gained; that is, swarming will not be prevented. Now, providing those hives do not prove satisfactory, worked in this manner for a single stock, all you have to do is, put in permanent division boards in the centre and use it as a double hive, with two stocks in it, placing the entrances at opposite ends. Or, place a division in the portico, and allow both entrances at one end; then you can place on your upper story and you have two swarms in one hive, both marked on the standard plan. We saw such hives in the yard of J. S. Hill, Mount Healthy, Ohio. For wintering single stocks in those hives, reverse the outside combs, placing the combs occupied by the bees in the centre and the standard number of combs. Now adjust the division-board and fill in each side with dried leaves, dried chaff, dried sawdust, or any such material; remove the honey-board and substitute the Bickford or Novice quilt, or some other material; pack the rear portion with some of the above material, fastening a board to keep it in place; contract the entrance and shade the hive from the sun, and see how they winter on their summer stands. I must give an entire article on wintering bees on their summer stands, as my visit to the South opened my eyes a little. The reader will readily see that if a few of those hives do not work satisfactorily for single swarms, they need not be torn down or thrown away, so there is no great risk to run, or nothing lost in trying the experiment. As double swarms can be worked in them to good advantage, and in some localities and to some individuals they may be satisfactory, while in other localities and to other individuals they may not. The same can be said of my large or twin hive.

E. GALLUP.

Orchard, Iowa.

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The bees will be sure to serve themselves first, their first generation being always females.—BUTLER.

[For Wagner's American Bee Journal.]

How my Bees Wintered?

MR. EDITOR:—I see by the Journal that the loss of bees throughout the northwest is very general. Through this section of the country I should judge that three-fourths of the bees have gone the way of all earth. I do not think it was their honey, as they did not have, last fall, any in their hives, as there was no honey gathered in this section after the middle of September, or at least not more than was used in the daily consumption. The honey here was so thick that when the thermometer was below 65°, it was very hard to extract, and then took and required very rapid turning with a geared machine, and a machine without gearing would not empty it successfully without long turning.

The late gathered honey here was from flowers that bees do not in ordinary seasons work on to a great extent, and the late gathered honey appeared to have an acid taste. As a general rule, bees that have been put in winter quarters have suffered the worst. One man, who for years has wintered successfully in doors, this last year lost all he had, between 50 and 60 stocks. The best wintered and least loss were those on their summer stands, with a wind-brake of some kind around them, and the honeyboards taken off and dry corncobs put on the frames, and a common newspaper put over the cobs to stop excess of upward ventilation, with the entrance closed pretty small. So far the spring has been very cold and backward, and a great many bees have left their hives, and a sudden change would chill them so they never returned; and we have had more high cold winds than usual this spring, so that a great many swarms are not now any stronger than they were a month ago.

Would it not be a good idea if beekeepers would get as near as possible the loss in their respective neighborhoods, and report through the JOURNAL? Last fall I had 65 stocks, good, bad and indifferent; now I have 35 hives, with more or less bees, some weak and some very strong; but as soon as the weather gets warmer, I shall equalize and commence artificial increase, as I have plenty empty comb at present.

R. R. MURPHY.

Fulton, Ill., May 13, 1872.

[For the American Bee Journal.]

Bee Hives.

MR. EDITOR:—In speaking of bee hives, I would say they are getting to be a nuisance. There are so many now in this country that, after awhile, there will be nothing about them to get a patent on, except name, nail-holes, and the number of ventilating holes in it. The same old claims have been patented over and over again, till the country is flooded with hives. A great many hives are patented that are no better than the common box hive, and often prove a step backward in bee-keeping than a step forward. Such hives will flourish for awhile, but most beekeepers will come back to the Longstroth hive, which, I think, has induced some to make their hives as near like his as possible.

If there is any improvement to be made, let it be made, but do not rush to the Patent Office with every little improvement that is made. If it were not for this, bee-keeping would be farther advanced than it is; for instance, a man wishes to begin bee-keeping, he goes to several "hive sellers" to ask their advice about purchasing a hive; each one has the best hive (in his own opinion), and all want to sell him a hive. He is puzzled which one to buy, and don't take any.

When I first saw the American hive I thought it was just the thing, but I have tested it and would like very much to get rid of it. There are several disadvantages:—It cannot be opened and closed without killing some of the bees—it is a very cold hive, and unless well protected in winter the bees would suffer—it is a miserable side-opening hive, which I, like Novice, now detest, and wish I had never introduced it.

The Buckeye is another, which, last season, I thought the best hive in the Universe, but I have changed my opinion since last winter. It is an extremely cold hive, for it has too much space between the frames and the body of the hive, and the bees do not winter in them well; and unless it is a strong stock, it will not be very likely to get through.

Many say that the Langstroth hive is too flat, aud the bees cannot get to their stores without leaving the cluster, consequently they do not winter well in them. I do not know whether bees can get their stores or not, but I do know I had bees in two of them for six years, and they are in them yet, and have always wintered on their summer stands, and have always come through strong. I am going to use it altogether after this, but I do not know how to dispose of the other hives.

C. E. WIDENER.

Cumberland, Md.

[For the American Bee Journal.]

Artificial vs. Natural Swarming.

MR. EDITOR:—We see that many persons, especially new beginners, do not see the advantages of artificial swarming. We *can* swarm artificially and keep our colonies, old and young, all full and strong, and will increase faster, gather more honey, and protect themselves against moths and other enemies and be in better condition for wintering; while, if left to natural swarming, some will swarm themselves worthless by becoming too weak, and being without fertile queens. Many persons do not understand that when bees swarm naturally they are without a laying queen often from twelve to seventeen days, and that a good prolific queen, under favorable circumstances, in that time will lay enough eggs for a swarm of bees. See what amount of young bees we lose by letting them swarm naturally, besides the many other disadvantages. There are many different modes of artificial swarming. I use the following: I have my queen cells formed in strong colonies, where there is an abundance of young worker bees; when capped over, I remove them to a queen nursery. (I use a cheap, simple and easily made one, similar to the one described on p. 242, Am. Bee Journal of last May, by L. L. Langstroth.)

When hatched I introduce them while very young, and generally without any ceremony, to strong nuclei, composed of full sized frames and leave them there for fertilization, and until I want them for future use. If I want more increase of colonies, I will go and take from near the centre of a hive one or two frames full of brood eggs and larvæ, with all the adhering bees *except the old queen*, put these full frames in an empty hive, set it in some new location, some few feet away from any colonies that I take frames of brood from, and fill the spaces in the old stand in the middle of the hive with empty frames. I go to other strong colonies and serve them the same way, until I get my new stand full, except room for one or two frames. This new swarm is set in a new location and without a queen for about twenty-four hours, in favorable weather, when most all of the old field workers have returned to the parent hive, and the workers that are left are principally young bees and very easy to introduce a young queen to. I then take from my nucleus a frame of comb, queen, bees and all, and put them in the new stands. By sprinkling them with sweetened water, scented with peppermint, I have no difficulty in getting them to accept the queen.

Thus you see our old stand with their laying queens are driving ahead, their progress has not been marred; and if they are getting plenty of honey from the field they will fill these empty frames amazingly quick, and our young swarm has only been without a laying queen twenty-four hours. If we want honey we must have our colonies strong with workers, and in order to do this we must have them as near all the time as possible with good laying queens, and then give the queen room to spread herself. I would here remark, that the honey-extractor is a splendid acquisition for giving the queen more room. My nuclei are formed in standard sized hives, with two division boards in each, making three nuclei, one colony working out at front and one on each side, with the fly hole close to the rear end. The sides and ends are painted different colors, and the division boards have large holes cut in them, and covered with perforated tin or wire cloth, so as to keep each other warm. Bees are doing well here. We have had some honey dew.

E. Liston.

Virgil City, Missouri, July 1, 1872.

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The past winter was the worst I have known in thirty years. Nine out of every ten hives have died, that were kept in the old fashioned box hives.

My own bees have wintered as well as common. In those hives where I separated old from young bees they never wintered better. They have endured one hundred and thirty days of confinement with perfect impunity.

Delhi, Ingham Co., Mich. John L. Davis.

[For Wagner's American Bee Journal.]

Management for Luck.

How shall we control a colony of bees to get the largest amount of surplus honey? We see from the Natural History or instinct of the honey bee, that they commence about the 10th of January to rear their brood. In the months of January and February, the queen will lay a small circle of eggs in two or three combs. In the month of March, the amount of brood is considerably increased, and to a still greater extent in the months of April and May, and in most cases when the last lot of brood is ready to emerge from the cells, or the last three lots are ready to hatch, the queen has all of her brood combs filled up with young brood. What brings on the swarming impulse with a colony of bees, and how are we to control it and cause them to store surplus honey instead of increasing stocks? When the hive is in the aforementioned condition, with all the brood combs filled with brood, and the queen no place to deposit her eggs, and the bees hanging idly in clusters on the outside of the hive, remove your honey boards and set on your honey boxes, not too many at once, but just as fast as you can get them to run into them.

Then as soon as you get them started nicely in your honey boxes, if the weather is favorable for swarming and honey abundant, go to hive No. 1, and lift out two frames of brood, with all the bees that are adhering to them except the queen, leave her in the old hive; put two empty frames in the place of those removed, putting a full one between them, and the bees will go right to work to fill up their empty space with new combs, and the queen will have plenty of room to deposit eggs, and will be perfectly satisfied with her home. Now increase the number of your supers and give them plenty of room, and you will increase their energy with a zeal to labor hard.

By this mode of management you give to your bees fresh newly made combs, right in the brood chamber; you give them abundance of room to work and prevent idle clusters at the entrance.

Take the brood combs, taken from hive No. 1, and also take two from hives Nos. 2 and 3, and set them in a new hive, and give thema queen cell, a queen cell just ready to hatch, or a young fertile queen. If you do this in the morning set the hive in the cellar till evening, about sun set, and then set them out on their summer stand, where you expect them to remain. If done in the evening, set them where you expect them to remain. In most seasons, one remove of combs will control a colony of bees, if you have got the right kind of hive; and in a very good season, when you find they are likely to swarm, you can remove one or two more combs from each hive and still control them.

The morning following this operation the working bees will return to their old hive, and you can hold the old hive on the storing of honey the whole of the season, if you want to. Now see if you let your hive swarm in the honey season, you mostly destroy the prospect of storing honey for that season.

My dear Bee friends, there is just as much principle about bees as there is in anything else. For instance, we go to some of our fairs, where they have got their horses trained up to a high speed, when they will make their mile in two minutes and thirty to forty seconds; then let some of the old fogy farmers bring out some of their old plow horses and put them on the track with the fast horse, and in one or two rounds see where the slow horse is. There is just as much in management of bees.

A word or two on Italian and black bees.

As regards the black bee. Every good season they swarm largely, and maybe before the next spring one-half of them will be gone. Now take the Italian and manage them right, and they will be a perfect success, and will not, like the black bee, run back, unless you make some mistake in their management. If you notice, the Italians fill the hive full of honey, nearly every comb, except a small place in the brood chamber. I opened three hives in the middle of October to introduce imported queens, and not an egg did I see. The cells contained honey and pollen, and filled up so closely in the fall that they made a perfect success, where the black bees will starve to death.

My experience is, that the Italians will go into the winter quarters with less bees than the blacks, and will come out in the spring with more, on account of the large amount of honey stored in the fall; and I would assist Mr. Hosmer, in his statement made at the National Convention, but I thought he made a little too strong a case for himself.

ALFRED CHAPMAN.

New Cumberland, W. V.

[For the American Bee Journal.]

A Freak in Bee-culture.

About the 1st of June, a neighbor transferred two colonies of bees into frame hives. All went on well until about the 18th, when one swarmed out leaving the combs destitute of bees, with some brood and no honey. The bees did not settle close by, though there were plenty of trees in the yard, but came over to my apiary, about two hundred yards distant, and settled upon a young peach tree within ten feet of my hive. It was hived in the same hive, but came out again in the evening. About this time another one swarmed and settled within ten feet of the first. It was hived, and the entrance was contracted to about ¼ inch. It remained, but in the evening out came No. 2 and went into No. 1. Late in the evening out came another swarm that had not been disturbed. It also came over to see me, and settled upon the top of hive No. 1, and gradually made its way in. This made three fine swarms in one hive. The weather being very warm, the heat in the hive melted the combs down, killing about one-half of the three swarms. Now what made the bees leave the stands in the first place, all leaving young brood, and in one, the comb was full of fresh larva and eggs, though not a great quantity of honey, and one without any? Why did they all come to one point to settle, there being plenty of trees between? I have always noticed a disposition to settle in the same place in the same apiary, but this being entirely obstructed by trees, and distant about two hundred yards, and no timber on the opposite of me for two hundred yards. I never saw bees leave young brood without some apparent cause, while these combs were all clean and nice, and the hives new, no moths nor ants about. Will some one give the solution.

A NOVICE.

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[Translated from the Bienenzeitung.]

What is Honey?

Two articles in No. 6 of the Bienenzeitung of this year, show the necessity that the beekeepers should be acquainted with the nature and properties of honey, so that he, on the one hand, may readily distinguish it from analogous products, and, on the other hand, recognize the value of them as bee food.

When an individual plant is closely examined, and its elements investigated, it will soon be discovered that it is composed of organic matters, which readily separate themselves in nitrogenous and those without nitrogen. To this latter class, with which we have to do, belongs the Plantfiber or Cellubose (C_{12}, H_{10}, O_{10}). Starch (C_{12}, H_{10}, O_{10}), Vegetable Gum (C_{12}, H_{10}, O_{10}, $+ HO$), Pectin, and the whole class of sugars and vegetable fats.

Our subject leads us to consider sugar alone of the last name products.

1. Grain sugar (C_{12}, H_{12}, O_{12}, $+ 2HO$).

This sugar is found pure in many plants; in some it is found in the flowers, in others, in the young sprouts. It is also found in great abundance in fruits, viz., cherries, plums, peaches, figs, grapes, &c., which need but be tasted to discover the presence of sugar. The white efflorescence on dried prunes, and the white granulations on raisins, is grain sugar, which is also called fruit or grape sugar.

Tasting a dry grain of grape sugar, and then a grain of cane or beet sugar, the difference between the two will be readily distinguished, the former being less sweet than the latter; two and one-half parts of grape sugar yielding only as much sweetness as one part of ordinary cane sugar: grape sugar dissolves less readily than cane sugar; one part of cold water dissolving three parts of ordinary cane sugar, while, in the same quantity of water, only two-thirds of one part of grape sugar will be dissolved.

Grape sugar is composed, however, of a mixture of crystallizing and mucilaginous sugar.

Compared with honey, grape sugar appears to be chemically similar.*

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* It is an error to suppose that honey is composed of mucilaginous and grape sugar, because the original grape sugar is composed of crystallizing and mucilaginous sugar. Both are one body, showing themselves under two different forms, as ice and water.

One will not expect that the product derived from *pressing* the honey combs in which pollen, &c., is contained, would be the same as that derived from the use of the extractor. Here we have the pure grape sugar thinned by water, and perfumed by the volatile oil of the blossom, which lays claim to the name honey. This honey is produced by nature in the flower, and gathered by the bees and deposited in their cells. In these cells the water is evaporated, and, thereupon, the bees seal shut the chemically pure, thickened honey. This honey is not digested, as was falsely supposed, by the intermixture of formic acid, which has no connection whatever with the honey-sac, but the honey is found as was before stated, ready formed in the flower.

This requires, however, a fuller explanation.

Perhaps it has been noticed by many, that towards autumn unlike portions of starch are formed in the plant. Just as soon as the air of spring penetrates into the plants, the starch begins gradually to dissolve into a solution of sugar, and to ascend as well into the newly developed branches as into the developing flowers.

Probably there is at work in the plant a not well known substance, called Diastase, which being dissolved by the warm spring weather, changes the starch into glucose and sugar. It is well known in the manufacture of sugar from starch, that sulphuric acid and heat will produce the change from starch to sugar. This starch sugar, thus produced, is now a rather common article of commerce, and is much used in adulterating cane and beet sugar.

Unripe apples and pears will become blue if they are boiled and brushed with tincture of iodine—a sure sign that they contain starch. Ripe apples will not show this reaction, the starch having disappeared, being changed into sugar. It is here to be noted, that a chemical change takes place whereby the starch is changed to Dextrine and sugar. What was accomplished by heat and sulphuric acid, is here brought about by the warmth of the plant, and possibly also by the intervention of the substance—diastase. Here, as in the flower, pure grape sugar or pure honey is produced.

The discovery was long since made, that grains of barley, when germinating, contain sugar, of which fact man has availed himself in making beer. The sugar in the germinated barley being dissolved by tepid water, is manufactured into beer. During the period of germination, the gluten contained in the grain dissolves; this forms the substance named diastase, through which, in the same manner, is the starch transformed into gum and sugar, just as it was accomplished with sulphuric acid.

Steep $\frac{1}{4}$ oz. of roughly ground barley malt, which one may readily make himself or obtain from any brewery, in 2 oz. of lukewarm water; let the mixture stand for some hours in the vicinity of a stove, or in the sun, and then strain it through a piece of linen. The fluid thus obtained will contain the dissolved sugar and the before mentioned diastase. A quarter of this, thus obtained malt decotion, is now to be stirred into hot starch paste, prepared from a $\frac{1}{4}$ oz. of potato starch, and 2 oz. of water, and heated to not over 65° Celtius, until the paste has become a thin fluid and transparent. It should now boil for some time at an increased temperature, strain it through a cloth, and permit it to dry in a warm place. The substance thus obtained is Dextrine, Starchquen, or Gommeline.

You proceed with the remaining portion of the malt decotion in the same manner as with the former, only heating it for some hours at a temperature of from 70° to 75° Celcius. Dextrine will first appear, which will change to starch sugar. Through evaporation, starch syrup will be obtained, which, by remaining undisturbed, will become crystallized.

In the fermenting process, Diastase effects the change. The taste of the malt is sweet and gummy, as soon as the starch of the barley begins to change to Dextrine and sugar, which change is hindered by the drying of the malt.

If one wishes simply to obtain for feeding his bees, the concentrated extract of malt, which, by the way, contains also in solution gluten, he need go no further; but ours is a different question. There is a much easier and cheaper way of arriving at this result. The malt decoction contains in solution grape sugar, which may readily be purchased and dissolved in water, when there will result the same sacchrine mass as is obtained from malt, lacking only the small portion of gluten contained in the barley. Is it desirous to introduce some nitrogen, you need but add water filled with the pollen of flowers or honey that has been *pressed* from the combs. *Expressed* honey holds in it nitrogenous pollen, and hence the bees can by this means supply themselves with food and also their brood. As to what may be the cost of malt and its transformation into bee-food, it may be remarked that about 3 cwt. of malt costing 15 fl., would not yield more saccharine matter, than 1 cwt. of grape sugar costing 8 fl.

As before remarked, pure honey will be perfumed by the essential oils that are produced by the flowers, which grape sugar produced from malt fermentation or other process will want, so that true honey can only be produced under the following conditions:

1. The grape sugar must be prepared from mucilaginous as well as crystallizable sugar.
2. This artificial honey must be mixed with some essential oil, so that it yield the aroma of flowers.

As before remarked, that grape sugar or honey has not the same sweetness as cane or beet sugar, so that if the apiary close by a sugar manufactory yields over 6 cwt. pure, little colored, and slightly flavored, but very sweet tasted honey, then can it safely said to be no grape sugar or honey, but simply a mixture of grape sugar and cane or beet sugar. Were these sugars chemically analyzed, not the slightest difference would be found. Cane sugar, as before remarked, is known to be composed chemically of (C_{12}, H_{10}, O_{12}, $+$ HO), and grape sugar of (C_{12}, H_{12}, D_{12}, $+$ 2HO). The sweetness of the materials guarantees cane sugar has remained in the cells. When experts taste this sugary substance, they will not disdain to connect it with crystallized and liquid sugar, and thus render it clear that the mass in regard to consistence is composed as we are accustomed to find honey—it becomes also in jars partly crystallized and partly fluid.

The feeding of bees upon grape sugar was before mentioned, and gave us this experience, that when chemically pure it was useful as a bee food. And why should it not be? Is not grape sugar and honey the same? In the former the aroma alone is wanting.

It is to be remarked that there are but two kinds of sugar that can be used as a bee food. Cane sugar, grape sugar, or that almost similar to the last, honey ; but one difference is found, that grape sugar can be transformed into either crystallized or mucilaginous sugar. The crystallized grape sugar is certainly pure, while grape sugar syrup may not be free from sulphuric acid. As the sugar syrup has been the means of destroying whole hives, whose inmates have fed upon it, it is well to have this so-called syrup chemically pure before feeding it to the bees. If one would mix chemically pure grape sugar syrup with a sufficient quantity of crystallized sugar, and perfume this with a small quantity of the oil of some well known flower, the product would be artificial honey, which as regards quality and aroma may be compared fearlessly with that product which our bees gather from the flowers and store in their hives.

When the bees are allowed to partake of the decoction of malt—thickened by evaporation—they will extract the grape sugar ; but it is not always advisable to allow this, as the dissolved gluten remaining in the extract, will in certain temperatures readily undergo changes, so that the mass will undergo a process of fermentation. This fermenting honey, used by the bees in feeding their brood, will act like the fermenting Havana or Cuba honey—introduce foul brood. Who really, in analysis, has examined the above mentioned means of subsistence, when they have been partaken by the bees, and does not see in them a cause of this brood pest, and undertakes to ignore the discovery made by him and others before and after him, he may feed his bees that analyzed means of sustaining foul brood!—he may feed them the fermenting malt extract, in order through experience and disaster he may become wise. Nevertheless, the main point must not be overlooked. Before feeding, he should establish the purity of such means of subsistence, or have it ascertained by others, so that it will be in a known condition. It is not to be denied, that in this there is no absolute certainty to be attained, but it can be judged by its outward appearances, which are oftentimes deceptive ; which, in the light appear as nothing less than dangerous aids, in that their form and substance wholly disappear. Should the brood after the sixteenth day partake of this analyzed nourishment in a raw or undigested condition, it will not fail to bring on foul brood. Prove that it is not so !

A. Lambrecht,
Chemist and Beekeeper.
Buraum near Burstein.

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Time is *money* to men—and *honey* to bees.

[Translated from the Bienenzeitung.]

Extracting Honey in Cold Weather.

At the convention of German Beekeepers, at Darmstad, Major Von Hruschka remarked that the Honey Extractor had not yet attained its full usefulness. Heat must be introduced so the honey can be extracted in cold weather.

I reflected over these remarks and became convinced that the introduction of heat into the machine would not work, the combs requiring a longer time to render the honey fluid, than could be obtained by this means. I thought of another plan, which two years ago I communicated to various beekeeping friends. I would willingly have made a trial of my plan the first fall after discovering it, but the honey harvest was short, so that all the honey had to be given to the bees for wintering. Often I have to purchase honey to feed my bees. Towards the end of October, 1871, an unlooked for opportunity occurred for the testing of my discovery. Herr Klein, Domainenrath of Tanbuckshof, invited me to spend a few days with him, and aid him to prepare his bees for winter, his official duties having prevented him from attending to them. On my arrival the bees were immediately taken in hand. They having quite a quantity of surplus honey, and as Herr Klein had no thought of using the Extractor, but thought of melting the combs, I remarked to him, "Let us prepare a room, and to-morrow we will use the Extractor."

This was immediately done. With the aid of two assistants, the combs were placed in a warm room. In an hour everything was in readiness, the Extractor fastened firmly to the floor with wooden screws. In three hours the experiment was made with these combs standing nearest the stove, and behold ! it went just as easy as though it were midsummer. The next day quite a quantity of reserved honey was extracted. What joy this gave Herr Klein, I cannot describe ; it saving him so many whole combs, of which he was in great need, having had to destroy many hundred beautiful combs on account of foul brood, with which his apiary was a few years back afflicted. At present Herr Klein's apiary is a model, and one of the finest to be seen.

W. Gunther.

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[For the American Bee Journal.]

Controlling Fertilization.

Mr. Editor.—In a communication to the Journal last fall, I confessed that all my attempts to have queens fertilized in confinement had been complete failures, but then said I had devised a plan in which I intended to succeed this season if anybody did. During the winter I made the bee my chief study, and held an extensive correspondence with other prominent beemen, and by the middle of April I decided that the thing could not be done. It is against nature, and all attempts will fail. I am also of opinion that those who say they were successful *only* think they were ; they were not positively certain of it, and I want nothing in the Journal *but what the writers are positively certain of.* I have not attempted to control the fertilization of but *one queen* this season, and that was as follows: About two o'clock, June 18th, I picked up a fine large queen about twelve days old, surrounded by a handful of bees. I found the hive she came out of, her wings were defective and she could not fly. I had a few days before read Waite's plan, and so run in the room to get just such a wire cage or cylinder as he describes. By the way, I have all such devices by me, showing that I have left no stone unturned to succeed, if that could ever be done.

Well, I put the queen with six well selected drones just leaving the hive—not returning to it—and set it in the sun, leaving it at least two hours. Waite says *one.* When I went to it there was at least a quart of bees hanging over it, and a great many drones. I then took it with all the bees hanging to it and set it at the entrance of a weak and queenless nucleus, to which I gave queen and bees late in the evening. Five days after she was laying regular in worker combs. Whether she met with the drone in the cage or before I put her in, or whether she met with a drone at all, I do not *know*, but rather think she has from the regularity of the brood and eggs. I will tell you all in the next number of the Journal. I had a case similar last August in which a defective winged queen that could not fly, did actually manage to become impregnated, but this queen was removed by the bees in March.

Well, friend Salisbury, you went to a cost of $30, to put up your *Fertilizing Tent*, but you are not the only man, for a great many others did the same. Please send in your report of *honest failures*, for they are nothing *else.* But should you report contrary to all expectations, *success*, I will immediately jump on the train and go with all speed and meet friend Furman and Novice in your tent, and will then describe the plan of the tent I had devised to build in the spring, and I think that if success is ever met with, it would have been by my plan as the most natural and least troublesome. My plan is as follows:

Make the base of boards about say ten feet square. I intended mine to be at least five feet high, with a pole in the centre to hold up the top of the tent, which I intended should be about ten by twelve feet higher from the top of the wood work, making altogether about twenty feet from the ground. Around this tent, just outside, I intended to set twelve nuclei, three on each side, with the main entrances outside, but an entrance at the rear end of each, passing into the tent for the queen and drones. When the queen was two or three days old, the front entrance was to be adjusted so that only the workers could pass out, but an entrance at the rear end of each passing into the tent for the queen and drones. Should there be objections to a rear entrance, the front entrance could be placed against the tent and so adjusted that the queen and drones could only pass into the tent. The entrance to each nucleus was to be marked with different colors, so each queen would find her way back. But whether the drones would ever find their way back from the tent, and whether the workers that should happen to pass into the tent would not get bewildered and lost, is what bothered me. Will some one who has built a tent try the plan, as it is the most natural of any I have ever yet seen described. I have not sufficient faith left in regard to "Controlling Fertilization" to try it myself.

The queen and drones may think themselves in a very unnatural position inside the tent. I am as anxious as any one is to see some one succeed, but before they patent it and trumpet it about over the country, I want them to be *positively certain* they are not deceived, and thus deceiving beekeepers. This is what we should all guard against.

R. M. ARGO.

Lowell, Ky., July 12, 1872.

[Translated from Kleine's Centrablatt.]

A Simple Method of Suppressing Afterswarms.

At the meeting of the Apiarian Association at Knesbeck, November 22d, 1871, the following question was offered for debate: What is the best way of preventing immoderate afterswarms?

The future prosperity is in many cases endangered by too much swarming, unless the beekeeper returns to it the requisite bees. It appears to me far simpler and better should the beekeeper prevent the departure of the swarms. My plan to accomplish this is not difficult, and never failed me in about 28 years, during which time I have had it in operation.

So soon as the young queens have sung for three evenings, you may expect that on the fourth day a swarm will leave. The parent stock, which should not swarm again, on the third night of this singing, after the bees have stopped flying, raised from its bottom board and placed on two equal circular blocks, which have a diameter of two inches, so placed as to allow the free ingress of the cool night air. Generally, on the following morning, all the surplus queens will be found upon the bottom board. Are they not found there, it is a sign that the swarm is not yet ready to leave, and that there is no danger of their leaving that day. Before the bees begin to fly, the two blocks must be removed, and the hive resume its position on the bottom board.

My treatment has always shown itself to be an unfailing remedy, especially in large straw hives, where the fly-hole is at the bottom. I consider it much easier and safer than that of cutting out superfluous cells. I base the success of my method on the present internal condition of the young queens and their protecting bees. Lastly, they surround in parties their chosen queen as a necessary defence against the other opposing divisions.

Through opening of the hive from beneath, and perhaps through the entrance of the cool night air, is this guard system destroyed and the killing of the queens follows. *This will occur only on the day when the swarm intends to take its departure.* The cold draft may operate on the bees just as wet, unpleasant weather to a swarm, when the bees set about the destruction of the superfluous queens, apparently because the proper swarming time appears not to have arrived.

I here give my plan to my honored beekeeping friends, wishing that it may bring an advantage to their pursuit, and the desire also that they will publish, through the *Bienenwerthschaftliche Centralblatt*, the results of their experience.

EDWARD PAULS.

Plettersdorf, near Godesberg.

[For the American Bee Journal.]

Various Items.

MR. EDITOR.—The busy season being now nearly over, I have leisure to write a little for the Journal, which is now becoming more valuable on account of our friend Langstroth's many and valuable contributions. His article in the June No., p. 267, on Artificial Queens, and the one on the "Color of Queens," in the July No., p. 2, correspond exactly with my own experience. So well satisfied am I of the correctness of that theory, that I put all my cells in strong colonies, and never cut them out until the tenth day; but the ninth is soon enough. It is not always safe to wait until the tenth day, for, on these occasions, when I went to cut them out on the tenth day, the first queen had already emerged, and had in one instance destroyed all the cells but two. On another occasion, where there were twenty cells from an imported queen in one frame, the first queen had emerged and destroyed three cells.

The present season is a very poor one. Early in spring we had every sort of fruit blossom except peach, but, on account of the cold weather, bees done but little except from April 14th to May 1st. The weather during that time was settled and very pleasant, but not very warm; yet bees done very well until June 16th. From that time to the present we have had a very poor prospect for bees, the weather being very dry, especially the last two weeks, very hot and sultry, the grass scorched up, the bees therefore at a stand still, doing nothing. I had reduced my stands to some thirty by sales to April 20th. By prudent management, I have taken about 480 lbs. extracted honey, and only about 35 lbs. cap honey, and increased the stocks to sixty-three, and have them all except six or seven in fix for winter. Novices must not attempt to do as I have done in such a poor season, which I consider almost as poor as that of 1868. I do not include the Great Novice in my warning, for he is equal to any task with bees, as is evident from his communications in every number of the Journal.

I have for the last ten days been compelled to feed every nuclei rearing queens, and it is at such times very costly and troublesome; besides, who can tell the mortification of a queen raiser to have near half his queens meet bad drones at a certain time. A few black stands were brought into my neighborhood last spring, but the black drones are all killed off by this time.

Had this season been a good one, I had counted on an increase to 100 stocks, and at least 3000 pounds extracted and 1000 pounds cap honey. This would have been a low estimate, with thirty stands rightly managed in a good season. I only had about five or six natural swarms. All others artificial.

This season has demonstrated the value of the extractor. Those who had no extractor got little if any surplus honey. There is less working in caps this season than I ever knew since 1868, and yet the body of all my stands was so full that if I had not extracted half, the queen would have been crowded out of her brood nest. The weather on the 20th of June was too cold for bees to enter caps.

R. M. ARGO.

Lowell, Kentucky, July 11, 1872.

[Translated from the Bienenzeitung.]

Spring Feeding.

I count judicious feeding in spring as one of the most important duties of the beekeeper, as in many years the success of the honey harvest depends on it. Alas, in my locality judicious spring feeding is wofully neglected. What attention is given to it in other localities I cannot say. The danger of feeding the bees outside of the hive is that instead of increasing they will gradually decrease, and often the colony will be entirely lost, or remain so weak that it will not be in a position to swarm.

I have often wintered stocks weighing, in autumn, including box, fourteen to fifteen pounds, which seldom failed to swarm, and return a good result. After the bad year of 1862, I fed quite a number of my stocks that had consumed all their honey and were not yet able to fly, and they became good strong stocks. When such poverty exists, one must feed by measure, so that they may be enabled to maintain their existence; and, when they have taken their purifying flight, give them their food about every eight days. How much in every eight days to be given to such stocks, depends on the populousness of the stock, and every one must judge for himself. Dissolved candy can be fed as well as thinner honey; the former for a month or longer, to those stocks not having a particle of honey, and are unable to bring in a particle of pollen; still the bees will remain healthy. The candy syrup should not be made so thin, nor should food honey be mixed with water. Feeding by small quantities, as is here usual, is injurious, as it is apt to incite brood rearing, and call for the gathering of pollen, and thus the bees are lost in our cold and changeable spring weather. To thin the food honey with water, as is taught in many books on bee-culture, is unnecessary and often injurious, as it increases the tendency to fly out; and the bees will thus be defrauded and not obtain that advantage from the food which they should. The opinion prevails widely here that when the bees begin to carry in pollen and are right active, they should be fed with old honey. True, should the weather continue uniform, but in our variable, changing from warm to cold, spring weather, more bees will be lost through this treatment. Stocks, having honey, I do not feed; they can take care of themselves. With us, colonies should gather their principal supply from buckwheat, as they seldom obtain honey in quantity from clover, and heath flowers. (*Ericaceae.*) What is obtained from rape is generally used by the swarms. Only in good years, such as previous to 1868, is there a surplus of rape and clover honey in our stocks; far more abundant is buckwheat honey. The best and heaviest young swarms will always be those near a good field of buckwheat. It begins to flower about the end of June, and continues till the beginning of August. They will always obtain for themselves an abundant supply for winter. It will often equal the parent stock.

In rich buckwheat regions, the parent stock will swarm once and often twice, has already gathered something for its support, are soon over their swarming period, while earlier swarming parent-stocks, when, as it often happens, the weather is unfavorable, and the pasturage gives no full yield, have to endure three weeks of idleness after swarming, and often when finished have neither bees nor honey.

As an instance of the yield of honey in this locality, I give you the product of my apiary for three years, which were counted good ones.

	Stocks.	Honey.	Wax.
1868	32	1000 lbs.	50 lbs.
1869	34	400 "	23 "
1870	34	750 "	37 "

The years 1868 and 1870 concur. The difference in the yield of the two years lies in this, that I had stronger swarms and disturbed them less. On account of the unfavorable spring of 1870, and the failure of the rape crop, and too little feeding, my bees did not swarm only in July—on the 23d I received two first swarms; afterward all went well. The swarms and the parent stocks reached in weight 60 lbs.; after that, on the 27th and 29th of June, from necessity, they had to be fed.

J. Bauman, *Mayor.*

Heilegenstedten in Holstein.

[Translated from the Bienenzeitung.]

The Defence of Comb Closets.

For twelve years I have used the movable comb system, and have tried many methods to preserve the combs from the attacks of the moth, till I at last made the discovery that when you hang the combs free in the air, the moth will not disturb them; and as soon as it is warm enough in spring, I take my combs out of the empty hives, where they were stored for the winter, and hang them upon a rack, two inches apart, in a strong draft under the roof, and not one comb has been visited by a moth.

Where the use then of chests, sands, ashes, bran, &c., the packing and unpacking, and the use of the Extractor, which even does not wholly clean the combs, and leaves unnecessary work for the bees in removing from the cells the material used in filling them?

I allude above to empty combs, for of course those containing pollen and honey dare not be placed in the open air, as the bees would discover them; and they cannot on the other hand be placed in chests, in ashes, sand, &c., where ants, wood-lice (Blatta onentales) would surely find them out and destroy them, even if mould, claiming them for his own, would render them valueless.

Combs containing honey and pollen I preserve in a comb closet, which will hold one hundred frames. Hereby I have the convenience to have at hand in a moment the needed combs. Truly, I must often look after them and fumigate them, to protect them from the moth, &c., and to drive away and destroy the ants, but this is much pleasanter than unpacking chests, and soiling the clothes, with ashes, bran, &c., losing time and breaking combs. Therefore, honor to the comb closet.

Moreover, "*De gustebus non est desputandum.*"

Teofil Zukowski, *Forester.*

Budewitz in the Buckowina, May 27, 1872.

[For the American Bee Journal.]

Gallup's Reply to Furman.

In the May number Mr Furman goes somewhat into figuring, and says he supposes Gallup wanted to draw him out, so that the rest of the beekeepers might have a little fun. I was informed that at the State convention he went almost crazy, so that it took the combined efforts of the chairman of the convention and Mrs. Tupper (who has, we understand, a peculiar faculty of quieting his nerves), to prevent his committing suicide or doing some other harm to himself. Now, why this terrible agitation and excitement? Gallup and Hosmer *barked too loud.* The little man had gone into a sort of Rip Van Winkle sleep as regards beekeeping, and on awakening he heard such a loud *barking or braying* from Gallup and Hosmer that he was entirely beside himself, and hence his excitement.

Now he requests me not to be offended at him, and to tell you the plain facts, Mr. Editor, I have actually laughed in my sleeve so much since reading his article, that one set of sleeves is entirely worn out. He no doubt will say, I wore them out piling brush. The sleeves are worn out, no mistake about that part. Mr. Furman, in his figuring, has made a slight mistake of a few thousands; he has deducted nothing for honey or pollen. When he says that a queen occupies a hive of two thousand cubic inches with brood, we suppose that every practical beekeeper understands how that is occupied. Every comb is occupied with brood, but not every square inch. It is also occupied with honey and pollen for winter supplies, especially in the honey gathering season. Now, we must deduct one-third for honey and pollen, and then we will see that in a hive of four thousand cubic inches, we have a trifle less than four thousand eggs per day, for twenty-one days, supposing the four thousand inch hive is occupied in the same proportion as the two thousand inch hive. Our late friend, Mr. Wagner, said, if I mistake not, that a queen under favorable circumstance would produce in eggs three times the weight of her own body in twenty-four hours. Again, when I read in a small pamphlet of Mr. Adair's, that a queen would occupy a hive of four thousand cubic inches with brood, I understood it to be occupied in the usual manner. But I thought either Mr. Adair's climate was different from ours or he was mistaken. Somebody was mistaken, and instead of crying out liar, &c., we went to work to find out where the mistake was, and we soon found that Gallup was mistaken. Mr. Adair was correct. Our friend in his figuring and ignorance of the manner that a queen occupies a hive, has made a slight mistake of about seven thousand—not much mistaken in a queen's laying something after all. Again, he says he would have hired some poor man to take his place in the harvest field. When the reader understands that a boy fourteen years old, can prepare with a good team and the necessary implements, and put into crop, one hundred acres of our prairie, and that every poor man can get a team and land on shares, so that when we go to harvesting we have to press our wives and daughters into the harvest field, and every available man from our cities and villages, will understand that his talk about hiring is all moonshine.

It cannot be done. So far ahead of the supply is the demand, that *to-day* the harvest hands are talking of five dollars per day for the present harvest. My youngest daughter has driven the harvester for the past four seasons.

Again, about one of my hives losing its queen, and the product being small, the queen began to fail of old age, and by the time the bees had superseded her, the swarm had dwindled down to one-fourth its natural size. We don't know but he can raise queens that will breed bees under these circumstances, that will gather more honey, for thirty days in succession, without a queen than with one. But our bees are not of that breed. Send us a queen of that variety and we will blow you higher than a kite.

Again, we did not suppose that any beekeeper was so green as to understand us as saying that the honey dripped from the trees, only that the blossoms were completely smeared. As I have never sold queens, patent hives, &c., I do not see very well how I am to get the dollars out of the Novices of Iowa. Mr. Grimm has been to Italy and has seen the Italians in their own country, therefore, we, being personally acquainted with him, take it for grant that he is as good a judge as Mr. Furman can possibly be, and to-day we would as soon send to Mr. Grimm for a good queen as any man in the United States.

Then, about insulting queen-breeders. The reader will understand that I never have said that all light-colored queens were impure, but that extra light-colored queens and three-striped workers were *no test* of purity; neither is a queen always impure because she is dark-colored, and under favorable circumstances produces dark-colored queens.

Read Mr. Langstroth's articles on queens in June and July Nos., for they give the truth of the matter just as it is. Again, he says something about not seeing it. There, Mr. Editor, was a joke on somebody, and I don't know to this day.

The joke, I suspect, was on Gallup. I will tell you the story and leave you to judge. Soon after coming into this State I was threatened with prosecution for having no right, but found the party threatening had no right himself, and I also found that Mr. Furman owned the State. Shortly a Mr. Goodhue came along claiming to act as Mr. Furman's agent. I acknowledged my willingness to pay. But Mr. Goodhue said (or in language to that effect) that he wanted some place to stop; that if he could stop with me, he should charge nothing for the right.

In about one year Mr. Furman and Mr. Goodhue both called and stopped over night (all free of charge, for we rather like to have beekeepers call on us). In course of our conversation something was mentioned about our writing for the Journal. Mr. F. spoke up rather sharply, saying that he paid cash for everything, and exacted cash from customers. But he had no blank deeds, nor had I. Afterwards I obtained one from Mr. J. E. Benjamin, Mr. F.'s agent, and as Mr. F. only got five dollars, and five dollars went to the agent as commission, he only saw five dollars instead of ten dollars, which he would have seen had he obtained it direct from me. Now you can tell where the joke lies as well as I can. Mr. Editor just let him give us another broadside. We rather enjoy the sport.

E. GALLUP.

Orchard, Iowa.

From the London Gardener's Chronicle.]

Bee Notes.

It would do any beekeeper's heart good to see how my bees have been working at the ivy blossom during the last week or so, both for honey and pollen. Bees here have the monopoly of the ivy this autumn, wasps being scarce in this neighborhood. [This is not the case in some parts of Devonshire, wasps being exceedingly numerous.] I have not as yet destroyed a single nest, though there are a few near; but whether they are plentiful or otherwise, does not matter to me in the slightest, as it is only the poor, weak, or nearly worn out old hives that are molested by them; and I always make it a point to keep my stock up to the best possible strength and condition.

A short time since I met with a curious circumstance in the apiary of one of our magistrates. Having to drive a hive—one in a beehouse containing three stocks—and having made all the preparatory arrangements very carefully, I lifted out the hive with its board, and extremely heavy I found it to be; but upon starting it from its board and turning it up, there were few bees to be seen, only three or four being in it. The combs were full of honey to the very edge; not an ounce more could have been stored in them. I at once came to the conclusion that the adjoining hive had made this their storehouse, otherwise it would have been robbed of its contents. There were a few bees at the entrance before I removed it, and after removal I saw some running to and fro in the inside of the house, where the hive had stood. But, more curious still, when I came to examine the stock at the other side of the bee house, I found a large sized box with a super on it, full of comb and bees; but, in addition to this, the bees had built a large quantity of comb, of beautiful quality, all about the outside, the boxes being almost imbedded in it. I could have cut out from thirty to forty pounds of honey, I have little doubt.

An incident somewhat analogous to the above, I met with a few days previously. A cottager at Charleston had a large box-hive in a bee house. He had very kindly furnished the bees with a large super, but had quite forgotten to open the communication from the stock-box. The bees, nothing daunted, constructed combs all over the sides and top of the hive, up to the roof of the bee house. I cut out at least fifty pounds of fine comb honey, filling several large dishes. Bees certainly are strange little creatures, and play some singular freaks occasionally.

Sometime ago I noticed a peculiar looking pollen, which was being conveyed into my hives —long, straggling pieces hanging to the hind legs of the bees. At first I thought it must be gathered from the ivy, but was mistaken. I have reason to believe it was obtained from the Evening Primrose, which had been in bloom in abundance in our gardens before ivy came into flower. The bees were working at the Evening Primrose as late as nine o'clock, some evenings.

A gentleman informed me that his hives were blown over by the easterly gales. He believed they were not much injured, but the bees were dreadfully vicious, and no one dared go near them for a long time afterwards.

George Fox.

Kingsbridge.

Bee-hunting in Australia.

The wild bee of Australia differs little in size or appearance from our common house-fly, and is stingless. Most of the trees in that country are hollow, and it is in the cavities of the branches that the bees deposit their honey, at a considerable distance from the ground. It is of an aromatic taste, and chiefly gathered from the leaves and blossoms of the different trees that clothe the whole country, from the summits of the mountains to the sea-shore, with the exception of occasional plains, which are of rare occurrence. By the aborigines of Australia this honey is regarded as a great luxury, and it is very interesting to note with what sagacity they contrive to indulge their taste for it—searching it out with infallible eyesight, and with amazing delicacy of touch. Their method of finding these natural hives, which are not numerous, is curious, not only from the fact that the most minute observation and the most delicate manipulations must have been required to enable the inventor of it to succeed, but also because it displays a knowledge of the natural history of the insect, such as I can venture to say, a large portion of the civilized world does not possess.

From the absence in many parts of the bush of Australia of flowers, the little native bee may be seen busily working on the bark of the trees, and unlike the bee of this country, which is ever on the move from flower to flower, it seems to be unconscious of danger. This may arise from the vastness of the solitude in Australia, which are seldom or ever disturbed, except by a passing tribe, or by its own wild denizens, which are far from numerous. The bee is therefore easily approached, and the bright, clear atmosphere of the climate is peculiarly favorable to the pursuit.

A party of two or three natives, armed with a tomahawk, sally forth into the bush, having previously provided themselves with the soft, white down from the breast of some bird, which is very light in texture, and at the same time very bluffy. With that wonderful quickness of sight which practice has rendered perfect, they descry the little brownish, leaden colored insect on the bark, and rolling up an end of the down feather to the finest possible point between their fingers, they dip it in the gummy substance, which a peculiar sort of herb exudes when the stem is broken, they cautiously approach the bee, and with great delicacy of touch, place the gummed point under the hind legs of the bee. It at once adheres. Then comes the result for which all this preparation had been made. The bee, feeling the additional weight, fancies he has done his task and is laden with honey, and flies off from the tree on his homeward journey, at not a great distance from the ground. The small white feather is now all that can be discerned, and the hunt at once commences. Running on afoot amid broken branches and stony ground, requires, one would think, the aid of one's eyesight; but with the native Australians it is not so. Without for a moment taking their eyes off the object, they follow it, sometimes the distance of half a mile, and rarely, if ever, fail in marking the very branch where they saw the little bit of white down disappear at the entrance of the hive. Here there is a halt, the prize is found, and they sit down to regain their breath, before ascending the tree, and to light a pipe, which old and young, men, women and children, are extremely partial.

When the rest and smoke are over, with one arm round the tree, and the tomahawk in the other, the blackman notches in the bark, and placing the big toe in the notches of this hastily constructed stair, ascends till he comes to where the branches commence. Then putting the handle of the tomahawk between his teeth, he climbs with the ease and agility of a monkey, till he reaches the branch where last he saw the white down disappear. He then carefully sounds the branches with the back of his tomahawk, till the dull sound as distinct from the hollow sound, tells him where the hive is. A hole is then cut, and he puts his hand in and takes the honey out. If alone, the savage eats of the honey till he can eat no more, and leaves the rest. But if others are with him, he cuts a square piece of bark, and after having his part of the hive as a reward for his exertion, brings down a mass of honey and comb mixed up together, which though not inviting, is greedily devoured by his partners below.

[For the American Bee Journal.]

Bees in Pella, Iowa.

DEAR BEE JOURNAL :—Many a heartache have we had since we last addressed you, in consequence of losing so many of our bees.

We had heard and read of bee cholera, but hoped we never should see its effects ; but vain was our hope, for it made its appearance among our bees in the latter part of last winter, and many stocks were dead before we were aware of its presence. We removed the living stocks to their summer stands, cleaned them out, and fed sugar syrup, but many stocks died after being taken from the cellar.

When the disease disappeared, we had only thirteen (13) hives with bees in them ; some had enough bees to cover five (5) frames of comb, and others had not more than sufficient to cover three frames, we had but four (4) stocks that did not show signs of the disease.

At this writing (July 8th) we have nineteen full stocks, and fourteen (14) nuclei of three (3) frames each, and two (2) glass nuclei of one frame each. Our bees have no comb to build this season, as there was good comb and plenty of honey left in the hives by the bees that died.

We are now raising queens from those imported last fall. Owen & Ladd, Brentwood, Tenn., are sadly mistaken when they suppose the foreign queen raisers thought they were sending queens to a Miss Morgan over here in America, as we signed our name with Mrs. prefixed, when we ordered our queens, so you see there was no particular charm in the prefix. But it may be that they are partial to the weaker sex, to test this matter we advise importers to use the names of their better half when ordering foreign queens. Ours came all in good order, and not one died during the winter, only where the bees died with cholera, and no one could expect a queen to live when her colony were all dead.

ARTIFICIAL QUEENS.

Our experience is quite different from that of R. Miller, of Malugan's Grove, Ill. It appears from his article on page 270, American Bee Journal, June, 1872, that not one of twenty (20) queens raised artificially, lived over one year. We know nothing of how he raises what he calls artificial queens, but suppose he must have at least one frame of comb, containing honey, brood and bees, enough to cover and care for the brood and queen cell inserted.

Just the way we raised our queens the two past seasons, and we have never lost one (1) queen thus raised, only when the bees died of disease ; have as yet never had a stock of Italian bees left queenless. We now have queens two (2) years old just as prolific as ever they were ; one in particular, that we raised last season, and escaped the disease that carried off so many, became very strong very early in the season ; we have divided it twice, and now every sash in the hive is full of brood, the outside frames not excepted.

We have but little experience in the mysteries of bee-culture, but think we have been rather a close observer of what has transpired among our own bees.

We use three frames in nuclei this season, as we find it more convenient to keep them strong in bees and supplied with honey.

We do believe queen cells should be constructed in a full stock of bees, and transferred to nuclei well supplied with bees and honey.

As this is our first communication since the death of your excellent Editor, suffer us to say, deeply do we sympathize with you and your many readers, yet we must bow with humble submission to the will of Him who rules all things in wisdom. May his successor be a wise and good man, and the American Bee Journal increase in usefulness, and have yet a wider circulation among beekeepers.

K. A. D. MORGAN.

Bella, Iowa, July 8, 1872.

[For the American Bee Journal.]

Receipts.

METHEGLIN.—Honey, fourteen pounds ; warm water, three gallons ; yeast, half gill ; two ounces hops boiled in one quart water. Mix this water, after straining out the hops, with the rest of the material. Put all into a cask or demijohn, and add enough water to make the whole four gallons ; let it work three days, then bottle and tie down the corks. When strong, will intoxicate.

MEAD—Same thing, only about half amount of honey is used.

MEAD—Another receipt. Twelve gallons water ; whites of six eggs, mix well, then add twenty pounds honey ; boil one hour, then add cinnamon, ginger, cloves, mace, rosemary ; as soon as cold put one spoonful yeast to it. Barrel, keeping the vessel full as it works ; after working stop close. When fine, bottle for use.

R. H. DIXON.

Canandaigua.

[For the American Bee Journal.]

Old Combs.

MR. EDITOR :—I have for several years practised preserving old combs from the depredations of the moth, when it is not convenient to melt them up at once. Lay them in the sun until they become softened, then roll them up and press them with the hands into hard round balls. In this condition they may be kept without loss or danger for years.

THE AMERICAN BEE JOURNAL.

Washington, August, 1872.

All communications and letters of business should be addressed to

GEO. S. WAGNER,
Office of the American Bee Journal,
WASHINGTON, D. C.

Have any of our bee-keeping friends used Bromo-Chloralum—a rather lately introduced disinfectant? We have within the last month used it for disinfecting damp, mouldy closets, cellars, &c., and have found it to act with great certainty and effect. We think it could be used beneficially in bee-keeping.

1. A small rag saturated with it and placed in the box containing empty combs, would prevent them from becoming mouldy, and would, we believe, keep the moth from depositing her eggs in the combs.

2. In cleaning old bee hives, honey jars, &c., a small portion used in the water, would make the hives sweet and pure.

3. We think that it could be used with the greatest benefit, in cases of foul-brood. It is said to stop all decay of animal matter, and would thus prevent the spread of the disease in the hive. The disinfectant is, when pure, perfectly odorless, so that it could be used, we think, with our detriment, while the bees are in the hive. The combs of the foul-brood hive could be well washed in water containing the disinfectant—and thus saved for further use.

4. Might it not have prevented the bee disease, which caused so much loss last year from one end of the land to the other, by reason of keeping the thin honey from souring?

The above are all hints of what we think might be done with it, not what has been done, but we see no reason why, acting so well in the several instances, in which we tried it, it would not do here. Should it prove successful, it will be a most useful aid to the apiary.

Our friend, Mr. Dadant, sailed on the 13th of July, on board the French steamer, La Ville de Paris, for Italy. We hope that we may have from him, while absent, interesting accounts of the state of bee-keeping, &c., in Italy and such other places as he may visit. His son, Camille P. Dadant, of Hamilton, Hancock county, Illinois, will act as his agent during his absence.

Novice desires us to say that the metal corners are patented, but that everyone is free to use them without a "right," or to use any modification of them they think proper; they (A. J. Root & Co.,) only reserving the *exclusive* right to manufacture them for sale.

Judging from the accounts thus far received, there will be but a small yield of box honey this season.

VILLE'S CHEMICAL MANURES.—Fesquet, translator. Henry Carey Baird, publisher, 406 Walnut street, Philadelphia, Pennsylvania. Price $1.25, sent by mail, free of postage, to any part of the United States. Coming from the noted Industrial Publisher, Baird, is sufficient guarantee of the value of this work.

THE MODEL POTATO.—An exposition of its proper cultivation; the cause of its rotting; the remedy therefor; its renewal, preservation, productiveness, and cooking, by Dr. John McLaurin. Edited, with annotations, by R. T. Trall, M. D., 12mo., 102 pages; price 50 cents. S. R. Wells, publisher, 389 Broadway, New York. The work is the result of twenty years' experience and observation.

Beekeepers' Convention.

The CENTRAL IOWA BEEKEEPERS' ASSOCIATION will held their next session during the IOWA STATE FAIR, September 10th, 11th and 12th, 1872.

Visitors pass over all railroads "in Iowa" for one-half fare. Some of Iowa's noted beekeepers will be present. Come one, come all, and have a general good time.

Tipton, Iowa. GEO. W. BARCLAY, *Sec'y.*

CORRESPONDENCE.

This season is rather more favorable than last.
WALTER HEWSON.
Kent, Eng., July 1, 1872.

Bees are doing very well here this season, that is, what few wintered over. J. SMITH.
Willow Branch, Ind., July 2, 1872.

This has been so far, in this neighborhood, a poor season for bees; few swarms and little honey. J. F. BROWN.
Winchester, Va., July 8, 1872.

The bees had a very good run here last week on clover, but it has been raining this week, so that we have gained nothing.
Binghamton, N. Y., June 27, 1872.

The honey harvest is very fine here. The linden trees are unusually full of bloom.
Allenton, Mo., June 25, 1872. WM. HARRIS.

Bees done very poorly here last winter; about half the colonies died, the balance were in very poor condition, but have done very well this summer. Just now there is a scarcity of forage, and they lie idle in front of the hives. Long live the AMERICAN BEE JOURNAL! J. B. RAPP.
Owensville, O., July 15, 1872.

This season has been poor for bees. No surplus honey of any account. The bees had filled their hive, and have enough to winter on, but the nights were too cold for surplus honey.
Wenham, Mass., July 15, 1872. H. Alley.

My bees are flourishing. My stock has increased from twenty-nine to sixty-two hives by artificial swarming. I use the two-story Langstroth hive with double sets of frames. I have mostly Italian bees, and will soon have all my stocks Italianized. I have one of R. R. Murphy's honey extractors, which works splendidly, and have taken about 1000 pounds of honey, and hope to be able to take as much more.
N. P. Allen.
Smith's Grove, Ky., July 3, 1872.

The season for bees has been better than it has been for several years, although late, a majority of the bees died last winter generally for want of stores. I wintered my eighty colonies without loss, kept them in my cellar five months, find no trouble in wintering in my cellar, while my neighbors loose from half to all wintering on their summer stands. S. Sandford.
Lima, Allen Co., O.

Thus far bees have done well here, though they could not swarm until June, owing to last season being such a poor one, and the winter very severe. I started this spring with five colonies, and have fourteen now. All the swarms that come off this month, I will put in the weakest, and make them all strong by winter. I have made a cap that covers the whole hive with four inches space on each side and back end, and high enough to cover surplus boxes. Movable bottom, with sides and back end that drop over the bottom board to keep out water. I can stuff straw all around and on top for winter. I use the Langstroth hive. M. L. Williams.
Ashland, Ky., July 15, 1872.

I have nothing new to report in regard to foulbrood, as my apiary is now entirely free from it. I can report twenty as healthy and prosperous colonies as the most enthusiastic beekeeper could wish. (See vol. vi., p. 211.)

Bees, as a general thing, wintered well in this place, and notwithstanding the spring was a month later than last year, swarming commenced about the same time; the first swarm of the season coming off May 15th or 16th. But as there was no forage from the first to the middle of June, all breeding and queen raising ceased, and there have been no swarms of consequence since then. From the middle of June till the present time, honey has been abundant and been gathered rapidly, one of my colonies having stored monthly during this time nearly sixty pounds in surplus boxes, which for this region is doing remarkably well. I have received from Mr. Peabody a new knife, very ingeniously made, which is just the thing needed to make the extractor complete, as it works easily and rapidly without the use of hot water.

It is not in the market this year, but I hope for the benefit of those who have steamed over hot water with the thermometer at 90° in the shade, he will supply the public by another season. E. P. Abbé.
New Bedford, Mass., July 3, 1872.

I would like very much to see a correct statement of the difference in point of merit as honey gatherers, between the Italian bees and our common black bees; I would be glad to have the statement from some honest beekeeper who does not make raising queens a business; as it is very likely that a man who wishes to sell a large lot of queens might be induced to exaggerate the value of the little foreigner a little above their true merits. Cotton is king in my locality; about one man in thirty keeps bees, raising honey for his own table, none to sell. We use a blank box hive, hollow log hives, old nail kegs, flour barrels, &c. Our farmers to a great extent, think beekeeping a small affair, a piccayune business; bees uncertain and unreliable property; movable comb hives a swindle; Italian bees a humbug.

I am one who wish to wake our people up to their interest. Therefore give us facts; no use to undertake to overcome incredulity by exaggeration. W. E. Freeman.
Olustee Creek P. O., Ala., July 8, 1872.

I just happened to think that I would like to see the commencement of the new volume of the Journal. Till rather lately I have been somewhat dull with regard to bee business. My bees, fifty-five stocks, came out all right in the spring, but about two weeks later than last year. They have done well on the fruit blossoms, but then came on a large spell of cold, rainy weather, which prevented them from working until sometime after the white clover blossomed, and even when I supposed the weather was suitable for them to gather honey, not a bee could be found on the white clover. I suppose the long cold rain prevented the accumulation of honey in the flowers. They began a little earlier in the Alsike, but as that was mostly winter-killed, did not amount to much. For about two weeks past, they have worked quite well, and I am taking out some honey. The last season I took all my surplus honey from the side of the brood by taking out the frames the honey was stored in, even if a little brood was stored in some of them, I could extract the honey and return some to the hive without injury to the bee brood. This practice gives an opportunity to know the interior condition of the hive, so that any frame not suitable can be put in its place. Last year I took out all old block and thick combs, and such as had much old sour bee-bread, in season to have them filled with healthy comb, and am of opinion that by so doing prevented much disease that bees are subject to, as I consider such comb very unhealthy if remaining long in the hive.
Genoa, Ill. A. Stiles.

The 4th of July is upon us, and finds the honey supply the most meager for many years in this portion of Ohio. About twenty-four of my colonies, black and yellow, went by the board during the past winter with that yet unnamed disease, which we might just as well call bee cholera, and be done with it.

No condition or style of hive was proof against it, for I feel very sure that the disease was inherent in the honey gathered from some unusual source late in fall. As a proof of this, when overhauling my dead colonies in the spring, I found quite a showing of uncapped honey in the combs, both sour and bitter, which, when consumed by the bees, would most assuredly produce disease during a long cold winter like the last.

The honey extractor, I have no doubt, would have proved a remedy, if we only knew when the conditions were upon us, by removing all such honey and casting it to the dogs, and supplying its place with coffee sugar-syrup, which, by the way, is the most healthful and complete artificial food I have ever used for bees.

Athens, O., July 4, 1872. J. W. Bayard.

Bees not doing much. A three or four weeks' drought dried up the white clover, our chief source, but I am living in hopes of a good yield from buckwheat. I have forty stocks, all in Langstroth hives, and about half of them Italians, which have done much the best.

J. L. Wolfender.

Adams, Walworth Co., Wis., July 17, 1872.

Bees in this section are making very little honey. No new swarms. The drought is general and very severe. H. L. Bush.

Ottawa, Ills., July 16, 1872.

Dear Bee Journal: — As I have not seen anything from this section in regard to beekeeping, I will drop you a line. There are no extensive beekeepers in this vicinity. There are a number of persons that have a few colonies in box hives or round logs. Bees wintered well in this section; I wintered sixteen colonies out of seventeen on their summer stands, without any protection whatever. As a general thing, bees have not swarmed much here this season; I left part of mine to swarm, and part I divided. All that I divided are doing well; I shall practice dividing altogether next season, for I think it much the best way, and saves so much attention during swarming season. My bees are the common black bees; I have not tried the Italians yet. Will close by saying: Success to the American Bee Journal! Wm. H. Ball.

Saybrook, Ills., July 18, 1872.

Editor of the American Bee Journal: — So far this has been a bad season for bees with me. From the middle of June until the 8th of July, bees in this locality gathered nothing, and before the 1st of July some stocks were so destitute that they devoured all their brood to keep themselves from starving. In two or three cases I saw the bees all on the outside of the hive (queen and all), and their owners "knew they would swarm right off;" but you ought to see their lip fall when I turned them over (the hives, I mean) and showed them the inside! People are beginning around here to own up that the Italians may be (a leetle) better than the blacks.

J. E. Benjamin.

Rockford, Iowa, July 17, 1872.

Bees and Honey in France.

Honey and wax are harvested twice a year in France. The earlier occurs according to location, from the latter part of May to the middle of July. This is called the summer harvest, and is usually better both in quantity and quality than the fall harvest. The honey is finer, better flavored, more aromatic and more easily drained from the wax. It is a pure nectar, collected from a great variety of flowers, and is little contaminated with pollen, particularly if gathered in supers.

At the beginning of July the honey harvest is usually at an end in Gatinais, while it is then just beginning in Picardy and at Troyes. In some of the southern departments the harvest commences a few weeks earlier than in the northern.

In the departments of Eure and Loire, the general estimate that the product of a good stock of bees is five per cent. on the capital invested. The yield of honey and wax in the four departments, Gironde, Landes, Lot et Garonne, and Dordogne, amounted to about two millions of pounds in the year 1866. In 1867, the summer harvest of honey in Gatinais, amounted to 900,000lbs., which was regarded as a fair average yield.

The fall harvest begins about the 15th of September, and continues till the end of December, according to the greater or less abundance of the yield, and the state of the weather.

At the summer harvest only a portion of the honey and wax is taken, a sufficient supply being always left in the hives to ensure the safety of the colonies in the event of an unfavorable season or a deficiency of pasturage. The largest portion of the honey harvested in the fall, is derived from buckwheat, heather and late blossoming plants; and is much inferior to the summer honey in quality and flavor. It is also darker in color, and very soon crystallizes. It does not drain so readily from the wax, commonly requiring heat and pressure to effect a separation, thus deteriorating the product.

The honey is stored in large vessels or barrels, and care is always taken that the place where it is deposited is dry and warm. Watery honey deposited in a damp place soon spoils, and even the best honey will in time be injured, if exposed to dampness.

Let the harvest be good or bad, the beekeepers always keep honey enough on hand to carry their bees safely through the longest winter.

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[For the American Bee Journal.]

The July Number.

Our much esteemed Journal for July is before us, and its contents have been pretty thoroughly digested. We think it would even astonish "Novice" to see the way we "go" for its contents. We find so many good things therein, that we can only briefly notice the most important. We read Mr. Langstroth's article upon the color of Italian queens, as when first published, nine years ago. "Dronings" makes his appearance. Of course we must have a *few* drones in "our large family" to make its harmony complete.

We think the value of basswood is not overestimated, and we can hardly see how it could be, for we regard it as being of the greatest value for bee-pasturage.

We think that the case of "successful destruction" could not be well improved upon, for it came nearly being complete. "Imprudence of bee-keeping!" Surely, we did not know before how imprudently we had been acting for the past three or four years. We had not even thought of how we were working against our own best interest by advising others to engage in bee-keeping, and endeavoring to tell them how to be successful. We can now plainly see that in doing unto others as we would wish to be done by, that we have been guilty of the "most supreme folly." Instead of letting our light shine, let us hereafter keep it securely covered with a bushel, for fear that some one else may find pleasure and profit in our lovely pursuit.

But here comes "Gallup" with his one story hive. Surely, friend "Novice," you *must* see this time.

We too are sincerely sorry to see such hard and unkind words pass between friends Price and Dadant. Can they not come to some amicable settlement of their difference? We trust they may. And here is "Novice," just as interesting and agreeable as of old. We sometimes wish, and no doubt others do also, that he would be a little more explicit about some things, especially, for instance, he does not tell us *half* enough about his prolific queen. We should like to know if her workers are the most industrious? Or, in other words, does her hive collect the most honey? We usually find that the worker progeny of an extra prolific queen to be models of industry, but not always. We often see equally strong colonies, one of which will far exceed the other in gathering honey, and that too *under* precisely similar conditions. Nor do we always find the strongest colonies storing the most honey, any more than that the largest cow yields the most butter. Do not think that we are condemning strong stocks; for as a rule they are decidedly the most profitable, but then there are exceptions to this rule as well as others.

And "Native" is going to effectually destroy, at a single stroke, the fair reputation of our little yellow "imported" pets. Why we should as soon think of dispensing with the aid of the movable frame as to throw *them* overboard. Have they not been fully and fairly tested? And are they not "superior to the native?" Have they not received the emphatic *endorsement* of our best and most successful beekeepers? Can any one tell us what has become of Alley, Argo and Beckford, Nesbit and Quinby, and many others who used to delight our readers with their sensible and interesting articles? Can they not be induced to let us hear from them once more?

Well, Mr. Editor, we find that we have overlooked many interesting items, and have not said all we should like; but we, like "Novice," are so tired and sleepy that we cannot write any more, for we too have had "fun" to-day. Good night all; and now for fair visions of mel-extractors and sweet dreams of the basswood honey harvest. Herbert A. Burch.

South Haven, Mich., July 15, 1872.

[For the American Bee Journal.]

Mr. Editor:—I hope I do not take too much liberty by asking you a question or two in respect to bee-culture.

One year ago I wintered about 40 swarms of bees and most of them came out light last spring. Last spring or summer I had 14 or 15 new swarms which I put in the Quinby non-swarmer hive. The swarms came so late that they just had honey enough to last till buckwheat, and then gathered quite a quantity of buckwheat honey and capped but little. I filled the space (filled with boxes in the honey season) with clear wheat straw, and left them on their summer stands.

On examining them a short time ago, I found all but three or four of the swarms dead, and the remaining ones nearly so, and all having more or less honey, but dying apparently with dysentery, the honey and hives giving evidence of it.

I had two old swarms that were wintered a year ago that have died, one hive that has, I should think, 40 lbs. of capped honey at the entrance of the hive, and some of the honey giving evidence of a very bad stage of dysentery.

Now through your paper I should like to know, what was the cause of this loss? What the remedy, if any, and how to prevent a like occurrence? A. Hemstead.

Waverly, Tioga Co., N. Y.

[For the American Bee Journal.]

Mr. Editor:—On June 17th, whilst I was engaged making an artificial swarm, about 5 o'clock P. M., my baby boy, sixteen months old, stirred up a stock of bees, and was stung very badly. His sufferings were so severe as to almost throw him into spasm; he had a wild look out of his eyes, and I was fearful that he had poison enough in him to kill him. I at once determined to strip him and wrap him in a wet sheet. I did this after extracting all the stings. In two or three minutes he was asleep, and slept twelve hours, seemingly sweet sleep, awaking only twice to be nursed. The wet sheet was put under and over the child, just leaving it room to breathe freely. The child perspired profusely, and thus threw the poison out of its system. It made a complete cure with but little swelling.

N. P. Allen.

Smith's Grove, Ky., July 3, 1872.

Walter P. Bean, of Maysville, kept thirty-two swarms of bees through last winter. He kept them in his cellar, the hives standing over potatoes, which took up the moisture, so that no mould troubled the bees. Maine Farmer.

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Letters from Chas. Dadant.

ON BOARD OF LA VILLE DE PARIS,
July 21, 1872.

MY DEAR FRIENDS :—The first days of our journey have been extremely agreeable, for the sea was very calm. We left New York on the 13th, at 11 o'clock, A. M. Our vessel was the fourth steamer that started from New York on the same day. Two of these steamers, being only a few miles ahead of us, were soon outsailed, but a boat (belonging to the new Liverpool Steamship Company), the White Star, did not seem disposed to allow us to beat her. This boat had crossed the ocean in the fastest time on record, seven days and fourteen hours. She was consequently taking pride in keeping ahead of us. The next morning she still was ahead, almost out of sight. At noon we were by her side gaining ground. In the evening she was far behind and disappeared during the night. We will be in Brest to-morrow, and at Havre on Tuesday, after ten days sea travel.

I suffered but little, although we had two days of very rough weather ; but these two days I spent in bed, and I could hear from my cabin during the meals, the rattle of broken glass, plates and bottles. My hive trunk was an object of general curiosity. Many questions were asked, and I had to recite volumes of bee-culture, which seemed to interest my hearers greatly, although many of them had never heard a word about bees. A brother-in-law of the editor of *L'Esperance de Nancy*, made me promise to send him articles on beekeeping for the paper. On the whole I am in good health, but greatly tired of sea life. What would it be, if instead of ten days we were to remain fifty days on the sea, as of old? I see around me many people who seem to amuse themselves greatly, but how I differ from them ! Family life is so sweet when compared to all that noise, that one feels most the value of it when it is wanting.

PARIS, *July 25.*

I am in Paris. I did not write from Havre, because I had no time. We arrived in this city on the 23d, ten days after our departure from New York. You will easily imagine the emotion that took possession of me when I again viewed my native country after such a long absence. As soon as we arrived in sight of the French shores, a young Frenchman began to sing the hymn : *Vers les rives de France.* (Towards the shores of France.) He first sang alone, then a little group was formed, and soon all the passengers were gathered, singing this beautiful song. When singing the last chorus : *Voila, Voila, la France * * * rivage béni.* (There, there is France. * * * blessed shore.) She is really beautiful, our beautiful France ; so beautiful, that it takes a big effort to leave her, and that one cannot see her again, without an immense thrill of pleasure ; so beautiful that all like to see her and to inhabit her shores. They say that the French are light minded. It is true, but they are gay, and that is something, for gayety is extremely attractive. In the train from Havre to Paris, I found myself in company with two middle-aged French ladies and a young English lady, accompanied by her husband. The two French ladies were gay and as playful, and kept up the interest by their remarks. But the English lady kept as cool and as quiet as a Roman matron of the old ages. Being French by birth, I am probably a partial judge, but I prefer the French character to the English.

Happily our American ladies have not inherited the English character altogether. I find one fault, however, with them ; that is, the size of their chignons.

Here in Paris, I can find none of the kilogrammes of rags with which some American ladies overload their heads. Nor do I see any of the pyramidal hats that are the pride of the most eccentric. They are out of fashion in Paris, and I hope they always will be.

Having landed in Havre very late on Tuesday, I started from that city the next day, in the morning. Before my departure, I went to see the boat agent to ascertain the cost of transportation of bees.

I arrived in Paris yesterday evening at six o'clock. I have been out on business since daylight, and I am going to take my breakfast with M. J. Pelletau, the editor of *La Culture.*

I will write more at length from Italy.

CH. DADANT.

[For the American Bee Journal.]

Novice.

Please, Mr. Editor, can't we have a hive too? We know you will think, and many of our "large family" *say*, there are too many already and that the more we get, the worse we are off, and that there are patent hives enough for the next thousand years, etc.

But, Mr. Editor, "*our hive*" is "nothing new," and, of course, is not patentable, we hope so, at least, and the novelty, if it is that, it is entirely stripped of the thousand and one valuable, all important features that worry the patient beekeeper and waste his valuable time.

Now, then, our hive is simply a square box open top and bottom.

As we are speaking to a generation possessing brains and using them, we will give our reasons as we go along. For instance, we *must have* a movable bottom, that the lower story may be used as an upper one, and vice versa. We dispense with a portico, also, for the same reason, and because it takes lumber, makes the hive heavy, harbors spiders, and gives no real advantage that we know of.

The stand for the hive and bottom board are one and the same thing, for when a hive with a bottom board stands on another board, we have the space between them wet and damp much longer after rains than when a single board makes both, and for this reason we advise all hives having permanent bottoms, to have for a stand, simply a frame of four pieces of inch board, two inches wide, and made one-half inch smaller each way than the bottom of the hive; thus allowing the rain to run down without being carried under the hive.

The bottom and cover are one and the same thing, and can be used in either capacity, so that if you have a stock of one you have both, and there ends our hive, when we have told you how to make the all important top or bottom.

Suppose you make a frame just like the hive, only two inches in depth instead of full depth, and when this frame is strongly made by halving in the corner, halve in for cover a sound board, but leave no projection at all, and nail it firmly from both ways, so that warping and opening is impossible.

When used for a cover, both hive and cover are beveled, so that the crack or joint carries the water outward, and when used for a bottom board the cover is also beveled around the outside edge, that the hive may fit over it for the same reason.

Accordingly, any number of hives may be piled on each other, or any number of bottoms or covers or all together, and all fit and no projections. They can be packed closely in winter quarters, or in a wagon or in shelter, empty, and if they are to be handled we can walk off briskly with a hive under each arm.

But the bottoms will drop off and the covers get away!

No they don't, when we have had our say, for you are to get some pieces of galvanized iron-wire, as large as a knitting needle, and three inches long; bend each end at right angles one-half inch, and when the bottom is squarely in place drive these staples with one foot in the bottom and one in the hive. And now for the entrance, which cannot be of blocks, nor do we want them, for they are loose and get lost, and yet, we want an entrance that can be enlarged and contracted. Nothing loose, that can be lost; nothing expensive; nothing that will get gummed and stick fast, was a problem we long sought to solve, but do it now very simply, thus:

Whittle out the lower inside corner of the front end board on a curve deepest in the middle, but not deep enough to remove any of the outside corner, or we should spoil it if ever used for an upper story.

Now, if you slide the hive forward so as to project over the bottom, we have an entrance, first small in the middle, and then enlarging to any extent, if we move it far enough, or so far as our staples will let it slide; and when we close a hive it is closed *surely*, and we need have no fear that robbers may crowd it open as they do sometimes the blocks. Use the door step or alighting board described last month.

The cover may be hinged on one side, and if you make a cloth quilt to cover the frame so closely that no bee can get by it, you can close a hive full of bees as quickly as a carpenter closes his tool chest. As a visitor remarked when we opened one of these hives, showed him two queens peaceably presiding therein, and then put them both back and closed the hive before he or they had time to be frightened.

The quilt, if properly made, can be spread over angry bees, and they will hush like a brood of chickens, as such closing up does not hurt them at all, and those remaining outside quickly seek the entrance when brushed away. A cover that is hinged can be opened and closed with one hand, and if in a hurry, we frequently remove a frame with the other. Taking off a cover with both hands and stooping to lay it down is tiresome, more especially if it projects over the hive two or three inches.

When one hive requires more room we simply place as many frames as we wish in another hive with no cover or bottom, and raise the original to allow this to set under it, or if we want a hive spread horizontally, place two tight together—nothing hinders—and cut passages when or as large as you like between them, and you then have every advantage, except a double division board, and this may be better if one is good. The entrance can easily be made on one of the long sides if preferred.

No water gets into this hive, as the top is one solid board, and no rain drives in the entrance, as it is directly upward.

The hive as well as covers, should be all halved together, as they have no permanent bottom to give them strength.

The halving or rabbetting is all done on the end pieces, viz.: across the top for the frame to rest on, and same depth down each end. The rabbet that holds the frames should be low enough to allow about three-quarters of an inch for the quilt to drop in, to close when laid on top of frames. Rabbet in ends of end piece deep enough to let side pieces in flush. Thus you will see the side pieces of hive are just as long as extreme length of your frame, adding a little for end shake.

Grain of the lumber should always run horizontally, to save trouble from shrinking of lumber, and for this reason allow considerable room below frames over bottom board.

A hive made thus should be always kept well painted. We use the Averill chemical paint, and it is just fun to paint them when piled up in square pillars.

In June, July and August, we think they should be shaded, but the rest of the year the first chance the sun has at them (no projections), we think a positive advantage, and that they cannot have too much.

About 10 feet of lumber only is required for such a hive, single story, and the whole cost should not exceed $1.00, without frames. A very good way to secure a perfect fit of cover and bottom is to first get simple complete box, with top and bottom, made of one solid board, halved in as are also the corners. This box for a Langstroth hive should be inside $18\frac{3}{4} \times 14\frac{1}{4}$, and depth about $15\frac{1}{2}$ inches. Saw off $2\frac{1}{2}$ inches of the top clear around, dropping the handle of the saw so as to get the bevel to shed rain, and then hinging the same slice, so that it opens just like the cover of a trunk.

Saw off the bottom in the same way, and you have, after turning it over, a complete bottom board and stand. Now, the hive itself is complete, except the rabbet to hold the frames, and if you have only one partially railed this part, you can take it apart to cut the rabbet, after which the nails can be replaced in their holes, and the whole nailed securely from both ways, for we must have the hive so that when lifted alone there will be no danger of springing out of shape.

Now, we hereby challenge the beekeepers of the world to tell us what can be accomplished with their patent hives that cannot be done with this, simple and unpretending as it is. The expense is not ever one-half that of hives generally used, and the labor of handling in the apiary, it seems to us, less than one-half. If you wish to raise queens, saw a place in the ends and bottom to slide in a sheet of tin, and you can use ten frames as before, and queens raised in one-half.

We bore a one-half inch hole in the end opposite the entrance, and cover with the same quilt, which permits either side to be turned up without disturbing the other. By using three end division boards, we have raised a large number of queens with more satisfaction than we ever did before. When a queen is removed and no more wanted, slide out your sheet of tin and all is well. In many cases the workers have passed freely over the division boards or tins, with no quarrelling, and no injury to the queens, even when four were kept in the hive.

In this case an entrance is made in each of the four sides, and two frames used in each apartment, which allows easy removal for inspection, and the queens can be kept until their brood hatches in these nuclei.

Now, brother beekeeper, what is to hinder wintering two queens in such a hive? We shall try several, and we need not enumerate the advantages of extra queens at any season. Suppose we had two weak colonies in the spring, could we not unite them in this way without killing either queen, and then using one of them at the proper time elsewhere?

I presume no one will say that we might thus get too *much brood* in a hive, say in April or May for instance.

We are indebted to Mr. C. C. Miller, Marengo, Ills., for the plan of dividing a hive, see page 88, vol. vi. He uses six apartments, one frame each, and, we think, stationary divisions, but we think, we prefer only four, and two combs each. Many thanks, Mr. Miller.

Who has wintered two queens in a hive, and is there any difficulty? We cannot think there is any difficulty.

Those who are inclined to doubt that coffee sugar syrup, properly sealed up in frames of comb, is not a sure remedy for the bee-cholera, would do well to read carefully the large amount of matter on that subject in the back numbers, although no one seems to have thought, before we mentioned it, that as bad food was the only trouble, chemicals from food or sugar would be an infallable remedy.

We cannot give here the host of facts that we have received on the subject, but will say that it seems that not more than four or five pounds of *sealed* syrup are necessary to keep a proper sized colony during the time they are necessarily in doors, or about four months. We think, but cannot be positive until further experiments, that *one quart* of young bees is better than more to go into winter quarters, and that one pound of food per month will be the average quantity needed. This sealed sugar syrup to be given in clear empty combs when they are put into winter quarters. But, please, do not run any risk of the little chaps starving. If you give them four times what they require, it will not come amiss in spring when they are raising brood. We shall let them use their natural stores until we put them in doors, about November 1st to 15th, according to weather, and then save the balance until they are out again in spring. In regard to pollen, we think, we shall try and give some to each colony, unless it be a few, for experiment, without any at all.

Please report *facts* all you can, or theories supported by facts, and we shall soon have as little fear of dysentery as we now do of moth millers.

Well, as we have now seventy-one colonies, it is going to be quite a task to prepare so many combs of sealed syrup, so listen a minute:

Our tea-kettle feeders will give a colony twenty-five pounds in ten hours, or less; but two difficulties then are here. To get a colony secreting wax, they will have to consume about five of the twenty-five pounds, besides the labor and stickiness of carrying around and making so much syrup.

Our bees are very willing to help whenever they can, as we saw illustrated a few days ago, when some empty sugar barrels were left out during a light shower; in fact they quite *cheerfully* (maybe a little *vehemence* mixed with it) undertook the pleasant task of taking the saccharine contents of a whole grocery store to their hives, about an eighth of a mile.

Now, we reasoned thus: May not so much energy be a fine thing when properly directed? and, presto! one of our hives, minus cover, was treated with beeswax a la barrels, and a float of strips of pine extemporized; two-and-a-half gallons boiling water poured on fifty pounds coffee sugar, and ten teaspoonfuls cream tartar stirred thoroughly, and then when cold, poured into the waxed hive, which was placed underneath a two-story strong colony, and our part was ended; the seventy pounds of syrup was speedily in the twenty combs, and they are now sealing it up. The colony was allowed to fly as usual, and as no bottom board intervened, they had full scope for their powers. As they are now wax-workers, will not a small amount of syrup keep them so, and cannot more than twenty out of twenty-five pounds of syrup be obtained in the comb?

And if a tight, zinc-lined box, capable of holding three barrels of sugar were given them, would they not use it all before stopping, if empty combs were given them? This we are going to try. We feel quite sure that no boiling is necessary, and that a barrel or some larger vessel may be used, by simply pouring boiling water on the sugar, as before mentioned.

We think one thousand pounds of syrup may be prepared in this way in an hour, and that by simply giving the bee access to it in the manner described, no further labor will be necessary than removing the filled frames, and giving the bees empty ones.

This experiment will give us ample time to experiment more fully with artificial store combs, of which, more anon.

And now, Mr. Editor, we are not half done, if we answer all the queries we have been asked through the Bee Journal. We have also received so many letters saying that our articles would be acceptable still longer, that we must offer them as an excuse. If any one would like us to give more room for others, please be frank, and tell us so.

Mr. Fisher, of Nashville, wishes to know "how soon we expect honey from our basswood orchard." Some in five years; perhaps enough to make it an object in ten years; but we have faith, and trust in Providence for the rest.

"Will not some beekeeper think it a nice neighborhood to locate, also?" A point we well considered at the start. But as we shall increase our bees as forage increases, we shall endeavor to make them think the locality overstocked, even if we have to keep one thousand colonies to hold our own.

May we, by the way, ask Mr. Jasper Hazen one question? In those localities near him that were overstocked some seasons, did those bees die of starvation that had made so many hundred pounds box honey in a season? If so, they certainly did not starve *themselves; their greedy owners* starved them.

On the other hand, if they died of starvation, without furnishing any surplus honey at all, there seems to be a disagreeable feature of his hive and pile of boxes, that he has not mentioned in his report of astonishing yields of box honey.

Will Mr. Hazen tell us more about these colonies dying of starvation because the locality was overstocked.

We never knew a colony to fail getting an ample supply to winter over, when they had room and empty combs.

Mr. C. C. Miller, Marengo, Illinois, writes as follows:

A Word with Novice.

Before it comes time, Mr. Novice, will you give us again explicit directions about feeding bees with sugar syrup? How prepared? How much to a hive? *When* to feed, &c.? I used last year, old tin fruit cans, punching holes through the lids, and inverting them. Do you think tea-kettles would be any better?

How many bees had you, spring of 1871? how much honey did you take, and how much increase did you have? Same for 1872. If you had watched closely, I think you would have found that your queen worker, mentioned in the June and July numbers, was suffocated by her own bees. I have known that to be the case with poor queens after laying a very few eggs.

I cannot answer your question, how to keep young queens in their cells, but can give you a plan that I found less trouble than the device you used. I took a couple of top bars of frames for the sides of a box without top or bottom, said box being, of course, the length of the frame, and two or three inches wide, and about an inch high, separated into apartments about two inches square. Then for a bottom, I tacked on a piece of wire cloth the entire length, and made a cover for the top of each apartment of square blocks; glass covers would be better. This I placed on my nucleus hive, or perhaps it would do on any hive, but I think not so well on a hive containing a queen. Then within two or three days of their hatching out, I cut out queen cells and put one in each apartment, and as the heat ascended through the wire cloth, they hatched out just as well as if they had not been cut out, and could be kept there a few days, I think, but I am not sure that I allowed any to remain more than a day or two after hatching. By the way, I wish you would try one of my kind of nucleus hives. You would find it very convenient to have a few queens always in laying order, for any emergency, and then when you get through needing any more queens, just slip out the six frames, and put in one hive, and you have a nice little swarm. You can have a patent right for half-price, to be paid for in honey, to be eaten at your house, if ever I come there.

C. C. Miller.

Marengo, Ill.

To which we answer briefly: If you allow their natural stores to remain in the hive, and they get the dysentery, they will consume, or partially consume twenty-five pounds or more, and perhaps die then. Those colonies that ourselves and others gave sugar syrup alone, seemed about as heavy when taken out in spring as when put in. Get the syrup sealed up in warm weather. We should have it all done in September. The tea-kettle feeder is no better in any respect, only that it is larger, and so requires less time to re-fill.

Sixty-four colonies in spring of 1871, or near that. No increase to mention. Sold about three thousand five hundred pounds honey.

Spring of 1872, lost three and sold three. Have now seventy-one, so that we have increased about thirteen, and taken about thirty five hundred pounds of honey as last year, and they have nearly enough now to winter, if permitted to have their natural stores.

We afterwards found our queen worker in the hive ; she destroyed the cell we introduced, but had long ceased laying, and so we were obliged to "skeese" her after all, which we shall do in future with such, "earlier in life."

The queen we mentioned sometime ago as laying so few eggs during the three years we kept her, and that she had been replaced by what Mr. Price would call a natural queen cell, we promised to report. Well, her royal descendant was just about as good as her mother, and no better, so there is one experiment to show that qualities are inherited.

Mr. Thomas Pierson, Ghent, Ohio ,asks, "at what time do you reduce from two to a one-story hive? Do you give all the brood to the bees? Where do you keep your combs? and do you smoke them with brimstone? If honey in the combs, do you extract it? How about preserving them, or keeping them from ants, if honey is not extracted?"

We answer all by saying, that we leave combs above until about November 1st, and then remove them, taking as much drone comb as we can, and have no trouble in getting all brood in below. We put the combs and honey, if there be but little, into hives, shutting them up *close*, and have no trouble in keeping them safe until May, without further attention. Our new hive is admirable for this, as it is perfectly tight, and can be piled up in a solid shape, taking but little room when the covers and bottoms are all left off, except one on top and bottom of the whole pile.

As we like to mention everything new in bee-culture that is good, we must say that Gray & Winder's queen cages have given us much satisfaction. We also find their wax extractor very convenient.

In our last, we perhaps made rather too hard a criticism on Adair's Progressive Bee-culture, and think it due him to say, there is much that is good in it ; yet we should call it *Un*-progressive Bee-culture, on the whole, and it is so much an advertisement for a patent hive, that it seems it should be furnished gratuitously, as should all books, in our opinion, that are written in the interest of any patented article. Are we queer or peculiar in our ideas? Mr. Adair's articles on Transactions of N. A. Beekeepers' Society, we think much more valuable than Progressive Bee-culture.

Mr. Adair has given us many things that are valuable, and we hope to hear from him often.

We suppose it is well understood, that the simple hive we have described, is as much a Langstroth hive as the usual form, and that it cannot be used by those possessing no right, without infringement.

Mr. L. cautioned us some time ago about recommending such a brief form of a hive until we had more fully tested them. And we can only add, as we said elsewhere, that after using over a dozen this summer, in every contingency, we challenge the beekeepers of the world to tell us what necessary operation in bee-culture. the simple hive just described does not admit of.

Some one asks about knives. We prefer a very thin, sharp blade, and never use hot water. The point is first slid under the caps, and they are then sliced from the under side, so as to leave the cap in an entire sheet, in its original place, until it comes off all at once. If the knife is *very* thin and sharp, the sheet of caps does not stick to it at all.

Mr. Quinby has recently sent us a knife with a curved point, for uneven combs, but we should prefer to use the straight blade, and slice down the crooked combs until the caps were built nearly level.

Of course, we have the blade bent at the handle, but so thin that a little pressure springs it straight whenever we wish to reach down into a hive to loosen attachments, etc.

To the many kind friends who have written us, that we are unable to answer other than here, we tender our sincere and kindest thanks. We have endeavored to make this article answer as many of your questions as possible, and we would suggest that many, very many of our correspondents could write if they would, much for the Journal that would be of both value and interest. We know our editor would be pleased to hear from you all, and it *may be*, that after this, he will be pleased to hear a little less from your old friend

NOVICE.

[Translated from the Bienenzeitung.]

The Theory of Wintering.

It is well known that each living organism, if it will exist in a healthy condition, must live in a known temperature. The narrower these limits are drawn, the less developed and self-sustaining will be the life of the organism, or in other words, the smaller will be the centre of the nervous system.

While man, whose nervous system stands highest in devolpment, and who has the most fully developed brain of all the creatures of the earth, is not only able to live in all degrees of latitude, but also able to endure a variation of temperature of 105° R. ; while most insects being brainless, and especially bees, can hardly endure a variation of 40° R , as they die from cold at 6° R., and from heat at 46° R.

Thus the first winter that would pass over our Temperate Zone would destroy almost all the insects, had not providence provided for their preservation. There are four methods of preservation : 1st. In the egg ; 2d. In the larva, to which belong all those insects requiring two or more years for their development ; 3d. In the chrysalis ; 4th. The developed insect. The most of those belonging to this latter class pass the winter in a state of torpidity.

To this latter class belong the bees, and it is well known that these, in order that their de-pressed vitality may not be wholly extinguished, require for their successful wintering, besides the necessary food and rest, especially a protected dwelling. The successful wintering of his bees is a masterwork of the beekeeper, as through ignorance of an inviolable, universal and authentic law, he will be very liable to commit many mistakes.

Let us see whether from the known discoveries and practical advancements to a successful wintering of the bees, a universal law cannot be developed.

In our climate bees need for successful wintering: 1. A properly constructed hive; 2. Healthy and sufficient food in its proper place; 3. Strong stock; 4. An undisturbed rest. The last three conditions are admitted on all hands Every one knows that they are unalterable and what is necessary to fulfil them. What is a proper winter dwelling, is alone a subject of thought and dispute. With this we have alone to do.

A proper winter dwelling for bees needs two requisites; that it be neither too cold nor too warm. It is too cold: 1st. When the hive is too large for the quantity of bees to be wintered in it, the animal heat developed from the bees being diffused over too large a space; 2d. When the hive contains cracks or openings, so that the outside cold air would have free passage through the hive. By actual experiment, it has been found that bees become torpid when placed for any length of time in an atmosphere of 6° R.; that even continuous 8° R. will be injurious; hence when in winter quarters, and without brood, if they are to be kept successfully, they must be in a temperature of 10° R. This temperature is found in every properly wintered stock, by actual observations with the thermometer, of course, not in the immediate vicinity of the brood, nor in unoccupied space of the hive, but on the outer circle of the cluster of bees. Is the hive from any of the above-mentioned reasons too cold, each descending degree of temperature will render the revival of the bees from their torpidity more difficult. The stock will eventually die. A swarm is able to exist in a temperature of 28° R., unless it is much disturbed or has a large quantity of brood.

A swarm, therefore, in order to be destroyed, must be awakened fully—a condition which would not nominally happen in winter. All the heat of the hive is developed from the bees themselves. The development of heat is labor, and a kind of labor which largely consumes vigor of the bees, especially when owing to the defective construction of the hive, the heat, through radiation, is lost. Therefore, a stock can for a short period endure intense cold, but is frozen by a relative low temperature, in which it is placed for weeks or months. It dies from exhaustion. In more favorable circumstances, when the hive is in a position to protect itself from the cold, it may suffer from an attack of dysentery. To produce warmth, the bees must consume a great quantity of heat producing material, *i. e.*, honey, whereby the intestines are so filled that they are no longer able to contain the fæces. The hive should, therefore, be so constructed that the bees, during their period of torpidity and when without brood, are able to obtain and sustain a warmth of 10° R. Should the hive not be able to afford the desired protection, it must be removed to a dark protected place, or protected from the cold by wrappings of some material. For such purposes a covering made of straw or wood affords the best protection. Through the inordinate covering with straw, the advantage may be overdone.

The hive dare not be too warm. Hives that are too warm are as injurious for wintering bees in, as when too cold. They are the product of the last twenty years, and their destructiveness is as yet not fully known. So long as logs, straw hives and single Dzierzon* hives were used, this charge was unknown. It was only when beekeepers began to keep bees in a cubboard—like hives, and in pavillions, and for the better retention of warmth, closely wrapping these and single hives with covering, that this trouble made its appearance.

We have no desire to do Baron von Berlepsch wrong, when we attribute to him the origin and dissemination of these too warm dwellings. He invented the pavillion, in which each single hive, where it comes in contact with the outside air, is well protected; he first taught the building of double walls; he narrowed the space occupied by the bees to the smallest possible space, by removing the outside frames, and substituting therefor straw mats; he sealed hermetically every crack, and stopped every opening for the escape of heat, and then imagines he has the bees in their native tropical climate, seated in Abraham's bosom. But they are sitting in hell, and are suffering torment like the rich man. Every one who has wintered his bees in too warm hives, has found this to his own satisfaction, long before they discovered the true cause of the wholesale slaughter of their bees. So soon as the temperature outside the hive sinks to below 8° R., and the bees are prevented from leaving the hive, they must remain in the hive, and fall into the known winter torpor. The opposite condition is, when existing for any length of time, contrary to nature. Their activity ceases at 10° R.; at 12° R. their full activity develops itself, and it is with the greatest difficulty that they are kept within the hives.

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* The hives alluded to in this article are the Dzierzon and Berlepsch hives, and as many of our readers may have some difficulty in understanding the various allusions, we append herewith a description of the two hives, taken from the Bee Journal, Vol. 1, pp. 14, 15: "The Dzierzon hive, in its original form, was a simple oblong box, thirty inches long, nine inches broad, and fifteen inches high, the ends being movable, buttoned doors. Two corresponding groves were cut in the inner sides, half an inch from the top, on which were placed, at intervals of a half inch apart, a series of cross bars or slats fitted up with empty pieces of comb as guides for the bees. The entrance was on one of the sides, midway of its length, and one inch from the bottom. In building or extending the combs the bees attach them to the sides of the hive. These attachments have to be severed when the bars and combs are to be taken out. As the ends of the bars are confined by, and can only slide in, the grooves, the combs must be taken out consecutively, and an interior comb can be reached only by removing all the anterior ones. With his hives substantially thus constructed, though with various modifications, that celebrated apiarian made all his observations.

By a more recent modification or the introduction of what he calls *double* or *twin* hives, effects a saving of material, facilitates the multiplication of colonies, and secures his bees greater protection against the severity of the winter.

One of the defects of the Dzierzon hive—the impossibility of removing the combs without severing the side attachment—was so obvious, that a remedy was early sought, and in 1855, the Baron of Berlepsch adopted frames similar in principle, though slightly differing in construction from those of the Langstroth hive. These enabled him to remove the combs without cutting and with ease. But his frames are troublesome to make and costly besides—two objections which operate against their introduction into use."

Is their dwelling too warm, either being built as regards the bees, too narrow, or the walls of the hive are too thick, so preventing as well the escape of the warmth within the hive as the introduction of fresh air from the outside, and thus also preventing the torpor of the bees, and a heat of a higher temperature than 10° R. will be produced.

Should this state continue for any length of time, the bees will become unquiet. I refer to the temperature of the outer periphery of the winter cluster, and to the brood which can readily endure a heat of 28° R. without injury, because as brood there is no necessity for their flying out. A large number of the bees will leave their place in the winter cluster, and crawl to the entrance of the hive in the hope of enjoying an airing. The low temperature outside forbids this. The bees return again and become more and more restless. At last they become so heated by the constantly increasing temperature of the interior, that they begin to buzz and fan. I have found stocks in such condition, that when I opened the outer door, the bees were seen running wildly over the inner glass door, which was warm to the touch.

That like circumstances occur, no one will deny, since there has been much complaint in regard to it; only it is not clearly known, or perhaps not known at all, that too much heat is the cause of all this. Yet one can readily convince himself. Take a strong, entirely healthy swarm, wintering in a normal condition, and place it in a light chamber of 6° R. temperature, and a in few days the same condition will be discovered, as exists for weeks and months in an over heated hive.

Does this too great heat continue for any length of time, it naturally produces great thirst, since in the heated dwelling with their thick walls, the precipitation of moisture is either wholly prevented, or first appears on the sides and at the entrance, from which the water may be seen flowing. It is a certain sign that not Dzierzon, from whom nothing relative to bee-culture readily escapes, but Berlepsch, the master builder of too warm dwellings, has awakened the desire of thirst. From many and various experiments and discoveries, I have discovered that a too warm dwelling develops thirst.

This is not a real disease of the bees, only a symptom of sickness—of the overheating of the bees and analogous to the thirst developed by fever.*

This desire for thirst must be allayed in time by suitable drinks, or the last stage will soon be reached, and here dysentery will bring the bees to the borders of destruction. It is best not to let the bees reach this state of thirst before using preventives; the hive should be cooled at the proper time, either by opening the door or through the introduction of fresh air through the Molitor, Muhlfeld plan, by placing icicles in the entrance or something of that manner; but the best plan for wintering naturally is, from the beginning, to prevent overheating. If the beekeeper has very warm hives, which he does not desire to dispense with, let him, above all things, forbear filling up the honey room with any badly conducting material; the placing of straw mats inside of the door, the narrowing of the entrance, etc. In pavilions, during warm winter days as well as nights, let the door of the pavilion open.

From these thus developed theories a general law may be made for the successful wintering of bees. *Bees should be so wintered that around the periphery of the winter cluster a temperature of 10° R. could be easily maintained.*

Owing to the great difference in hives, and the changes in the outer temperature, experience alone will teach how advantageously to follow the rule. Those will winter their bees with the greatest safety who are in the position to bury their bees, because in the earth there will be an equal temperature maintained as well in cold as in warm weather; and even when warm weather appears, the darkness which surrounds the bees will prevent them from becoming restless.

SCHONFELD.

Teutschel, Dec. 8, 1871.

Remarks on the above Article by Dzierzon.

Herr Schonfeld develops in No. 1 of the *Bienenzeitung*, excellent theorical principles relative to wintering bees, nevertheless, I cannot entirely consent to its practical application, namely, when he says that bee hives should not be made too warm.

I find that portion contradicted by his own words, that the bees require a certain temperature which upon the surface of the cluster dare not sink below 10° R.; that the warmth of the hive is developed from the bees; that with the greatest cold they are able to develop the required heat; that they can by degrees destroy themselves, should they make too great exertions and have to continue them for too long a time. According to these principles, that hive is best, which as far as possible prevents the escape of heat. Any one would just as soon complain of a room being too comfortable, as to complain of a bee hive being too warm, or more properly, retaining too much heat; in that the sides themselves develop no heat, but only retain that arising from the bees and preventing it from being lost by radiation. The bees will never develop more heat than is needed, and if, owing to the casual stopping of the entrance, or some other disturbance, the bees should raise the temperature of the hive to the highest degree, they will drive out the surplus heat by ventilation, and in a short time resume their natural quiet.

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*Notwithstanding it is especially useful to provide drink, especially in cold hives, towards the end of winter, which appears from my drinking glasses, which the bees not in any wise disturb until the brood demands water, and the bees are thus prevented from an injurious flight in search of water.

A bee hive may be too contracted for a very large swarm when it is too small in itself or contains too much honey. Since one is not able to foresee the amount of room that will be occupied by honey and combs, it may readily happen that the need of necessary air—that indispensable element of life—will appear, and unrest and its consequent evils, especially dysentery, will be brought on. The discussion can clearly not be concerning the too great and injurious heat retaining qualities of the bee hive. In the thickest and warmest logs, according to actual observation, bees winter best. Such hives are dangerous in the summer rather than in the winter. While, especially if they are rounded or four sided, will the temperature be equal throughout the hive, and hence the brood be spread throughout the hive in all directions, and especially drone brood in large quantities, so that the possessor of these stocks will, in autumn, have to be satisfied with many empty combs, unless the honey harvest be unusually favorable, whereas in spring they promised most profit from rational management, viz.: the confinement of the brood space, especially drone brood, the arrangement of a particular honey space or magazine, and the transfer of a large portion of the population of the hive by means of artificial swarming, &c.

One can readily see how advantageous the bees may be wintered when the walls of their hive, not only do not obstruct heat, but rather bring in heat; thus in hives containing several swarms they gladly place their winter quarter against the common partition, and in hives containing three swarms, a very weak swarm will winter exceedingly well in the centre division.

At all events, such bee hives are very dry, and the bees must not be left without water, especially if they have candied honey or pure candy for their winter food. With ordinary fluid honey they will remain perfectly quiet until the commencement of brood rearing. A little thirst will work no injury, but, on the contrary, it has the advantage to prevent the bees from beginning the rearing of brood too early. That bees should so suffer from thirst, that they will drink eagerly every drop of water, bustle about and make a noise, has never been an observation of mine; they conduct themselves more like bees suffering from hunger. Individual ones may fly out, or crawl around the hive like ants, seeking to drink any water they may find, but the great mass of the bees will remain in perfect quiet. The warmer the hive is the less will the bees be affected by any change of temperature, and therefore it will keep the bees in the greatest degree of rest.

How Herr Schonfeld can maintain the direct opposite as the consequences of the warmth-retaining qualities of the hive, and can declare that the bees will become restless when too warm, I am unable to comprehend. Let the temperature within the hive, and outside be what it will, and vary from 20° to 30° R., the bees will show signs of wakefulness and remain quiet, should they have nothing outside to fetch. This is seen late in summer and in autumn, and is also seen in the tropics during the hot summers, which answer to our winters. Sometimes the bees make a start for purification, but soon return and resume their normal state; in the hive they naturally do not gather themselves in a cluster, but spread themselves over the combs. Their rest and idleness is, however, the same as that which we see in our bees in autumn and winter. Individual bees will, of course, be seen flying about as scouts, and only when they bring the intelligence that there is something to be made, will the majority take to the wing.

I can attribute this disturbance of the bees, not as Herr Schonfeld, to the overheated condition of the hive, but to a lack of air, or confinement, though it might be the consequence of queenless or some accidental disturbance from the outside. In a tightly and well built hive, with perhaps double doors, especially when placed in a close room, may the bees suffer from a want of air. The carbonic acid gas, being heavier than air, gradually flows off; but as the much heavier water will not flow readily from the spigot when the bunghole is hermetically sealed, so in the bee hive, the oxygen may be so consumed, that the carbonic acid gas will rise, and the bees become very uneasy and anxious. Besides, when the entrance is closed by perforated bar, the population of the hive may soon be in the greatest agitation. The bees buzz around and bite the door, without one showing itself at the entrance. The bees appear to have conducted themselves thus on the occasion described by Herr Schonfeld. When the bees rush against the glass door, they desire to get out into the open air, and should they not appear at the entrance, the reason is that it is inaccessible. If the bees are not to destroy themselves, through anxious and fruitless efforts to escape from the hive, help must be extended to them without loss of time. In favorable weather the entrance to the hive should be opened, and if possible, be opened early, so that the entrance may be readily seen. In cold weather the bees may be brought in a warm room. If neither the one nor the other is possible, then the openings around the entrance through which the bees may escape, are tightly closed, and a more favorable season awaited for performing further operations. The chief aim of the operation is that the bees be so moved that they are placed near the entrance of the hive. It is of no use to attempt to drive them away with smoke alone, they will return to protect the combs now containing, or which have heretofore contained, brood.

The combs upon which the bees cluster should be removed in the hive to a position near the entrance; and should the combs be rather broad, that end on which the bees cluster thickest should be placed towards the entrance. Should the edges of the combs be somewhat distant from the walls of the hive, it would be well to put a small strip of comb between the comb and the wall of the hive, so as to form a bridge between the entrance and the comb, thereby giving a ready means of access to the comb. Many stocks have neglected a favorable time for the purification flight, and lost many bees, which, half benumbed, are able to reach the entrance of the hive, and die in the hive, the way to the entrance being long and much obstructed. I think it doubtful therefore whether it is judicious in box hives to put the entrance at the bottom of the hive. When the boxes are high, two entrances are advantageous; the one at the bottom and the other about half the height of the brood. And these entrances can be closed, or partly closed, according as may be required by the strength of the swarm and the position of the bees in winter and when rearing brood. To leave the openings both open in winter will be beneficial to strong stocks. The air can thus pass in at one entrance and out at the other, and will thus be constantly renewed without any aid from the bees, so that strong stocks, which carefully guard the entrance, will pass safely through the winter. How quickly, especially with weak stocks, a want of air will show itself, I discovered through actual experiment in this manner. I wintered for the purpose of having reserve queens, and also for the purpose of making observations, small swarms in small boxes, and sometimes transferred strong swarms after they had suffered from cold, in like boxes, and placed them in a room. To protect them from the light, I placed some in a clothes closet and some in larger boxes. Whenever I opened them the bees began to buzz, so that I began to suspect the loss of the queen. As this fear of mine proved false, there was no other explanation to be given, than that the bees were lacking fresh air, since the air contained in the large chest was not sufficient to renew the air in the hive.

Now every room, every cellar, and every enclosed room is but a box, larger, of course, in size, and the stocks placed therein may, even though the entrance be wide open, more easily suffer from want of air, than when the stock is upon its summer stand.

Strong swarms in box hives may have the doors raised, or removed entirely, and straw mats substituted. In Stebnik's the cylindrical formed hives are placed on their side, with the one end open, and the bees winter in it advantageously. I write this on these conditions, that the earth will absorb the carbonic acid gas, and thus purify the air. The degree of moisture in the air also plays a very important part in this matter. It will never be any injury to fill a pure white comb, having no appearance of mould, with water, and place it in the hive either horizontally or perpendicularly. Even though the bees do not touch it, it will still produce moisture, and thus aid to produce healthfulness among the bees. DZIERZON.

Carlsmarkt, February, 1872.

How Petitions are Manufactured.

At the request of several subscribers we insert the following letter, addressed to the editors of the Beekeepers' Journal, showing how petitions were manufactured this spring to defeat the supposed application of Mr. Langstroth from an extension of his patent.

Nashville, Tenn., 1872.

EDITORS OF BEEKEEPER'S JOURNAL:—In the April number of the Journal, over the signature of reporter, I noticed an article headed "The Tennessee Apiarian Society," about which I desire with your permission to say a word, and to make a few corrections in regard to the remonstrance mentioned there.

Now, whether those who presented the remonstrance were mistaken in regard to the facts concerning the extension, or whether they were governed by selfish motives, I leave for themselves to say. But it looks a little suspicious, when I inform you that at the meeting referred to by the reporter, there were but seven members present, five of whom signed the remonstrance. Of these five, four are inventors or improvers of hives or frames in which all the main principles of the Langstroth hive are included accidentally we presume; and the fifth, the Secretary of the Association, signed under a misapprehension of the facts, and has since renounced the whole scheme and will sign for extension. So much "for all the members but one and the president," signing the remonstrance.

Now, Messrs. Editors, I shall leave it to you and your readers to say, whether these *inventors* and improvers of the Langstroth principles were governed by disinterested or selfish motives in signing the remonstrance against the extension of the Langstroth patent, when it stands directly in the way of the manufacturing use and sale of their *own* hives, which they can neither use nor sell, on account of Mr. Langstroth happening to have invented the same principles fifteen or twenty years ahead of them.

But let us look at the arguments in favor of the remonstrants:

1st. Inasmuch as Mr. L. had not realized what he ought to from his patent, therefore he never would, consequently an extention would be of no benefit to Mr. L.

2d. That there was no assurance that those who had purchased a right to use the Langstroth hive, would not be compelled to do so again.

3d. That this (Langstroth) hive was the greatest incubus on bee-culture.

In regard to the first argument, let us say, that if the remonstrants consider this argument conclusive, we think they deserve the pity of every sensible man. In regard to the second, would it not have been more creditable for these remonstrants to have informed themselves on the rules governing the extension of patents, than to have made such a splendid display of their ignorance, as to insist that those who had purchased the right to use, would have to do it again, when the fact is an extension does not effect the right of a previous purchaser to use. But as has been said, "When ignorance is bliss, 'tis folly to be wise."

The third argument advanced was said to have been explained by Mr. Owen, when called upon, in the following language: "Let any one attempt an improvement in bee hives and he is immediately set upon by the Langstroth faction as an infringer, and threatened with a law suit, and if any one wants a hive, and uses any other than the Langstroth, he is told that he must incur the additional expense of a Langstroth right, or lay himself liable to a legal prosecution; and he for one would be glad when this black mailing system was at an end and the inventive genius of American beekeepers would be untrammelled."

We think that Mr. Owens' language will fully reveal the spirit that governed the signers of the remonstrance. Now the trouble with this "inventive genius" class of beekeepers is, that they are not allowed to appropriate all of the important principles of the Langstroth patent to their own use, by attaching them to some peculiar shaped hive and then call it an improved hive, or give it some hideous name, and then pass it off on uninformed persons as their own invention; and because they are not allowed to appropriate with impunity, they consider themselves blackmailed and their "inventive genius" trammelled. Now we hope when the remonstrants learn that Mr. Langstroth has not even made an application for an extension, they will still consider their "inventive genius untrammelled," only so far as falsehood and misrepresentation are concerned.

Reporter No. 2.

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[For the American Bee Journal.]

The Miller and his Wife in Trouble.

Kind Editor:—I have some items which I will part with to our bee brothers, and at the same time ask others whether they too meet trouble almost daily, or whether things all go smooth and right with them? Well, I will take my text in the word trouble, commencing with

Trouble No. 1. There is something wrong at the house, says my brother miller. Look! your wife is knocking and pulling her hair at a fearful rate some fifty yards from the house, and your daughter with the babe is also taking steps for some safe place. Soon word came to the mill, to come and take care of the bees, they have run us all out of the house. I was soon at the field of battle and found my orders had been disobeyed. I had been extracting honey the evening before, and told my son to put the empty combs and frames into empty hives, closing them up tight.

He thinks it will do as well to put them up stairs, so up they went; but the bees soon found their way to them, and in a very short time, the house and yard were filled with bees, and from some cause became angry and went for 'em.

I removed the combs and the first trouble ceased.

Trouble No. 2. George and myself almost out-generaled.

As we have no particular house for our extractor, we pressed the old smoke house into service, closing the door and working by candle light, there being no windows in the smoke-house. But there was soon trouble on hands, the bees found some cracks and holes and in they came. This would not do, so we got paper and paste and papered our house, but still they came in under the shingles, &c., so we packed up our matters and left for the kitchen. There all went right when honey was very plenty, but when it got scarce they again found us out, coming in at places where we would not have believed they would. The floor was full; my better half stepped on one, but did not stay long with her foot on him. That was too much; "get out with your honey-slinger" was the orders, and as we always obey orders in the kitchen, for we are very much afraid of dish rags and broom sticks, we got out. But where shall we go? The smoke house was the only place we could think of, so more paper and paste was added.

Trouble No. 3 comes next. Our dear old friend Langstroth says in his book, page 308, "the gentleness of bees when properly managed makes them wonderfully subject to human control." This is very true as we all will acknowledge, but they appear to have such a love for honey that they cannot control their appetites, for they will break that commandment: "Thou shalt not steal." Some days I can hardly open a hive, for they follow me from hive to hive, so that I have to give it up for that day; they appear to know me and watch where I am going to open the next hive. As soon as it is open, they go on the old Dutch rule: "Every one help himself." I would rather they would wait until it is handed round. I think I love my bees as much as any man, but I am tempted sometimes to knock a chap down that wants to salute me with a kiss of charity. Sometimes they appear to have great respect for me, calling cousin and aunt in my ears. I think in the evening when honey is scarce is about as good a time as any to open a hive. But how Catharine Grimm managed to get one or two barrels out in a day, without having the bees after her, trying to rob, I can't see; perhaps she could tell me. I find they have not yet adopted the eight hour system, as they are on the look out late in the evening. When honey is very plenty, I know they are not quite so troublesome, but mine trouble me even then; who can give the time and plan to prevent this? Let us hear.

Trouble No. 4. For the last two weeks bees are again dragged out of the hive on account of the pollen of the milk-weed hanging to their legs. In October No., 1871, p. 87, of A. B. J., I thought it was false growth or natural deformity, but I have learned better since. See Quinby's book on bee-keeping, p. 82, where it is fully described. The American Agriculturist of New

York, has a picture of a silk or milk-weed flower, also a bee magnified with the pollen of the milk-weed adhering to his legs, which is worth examining. There is an article in the Cincinnati Times, No. 33, July 25th, 1872, stating that two apiarians of Utah deny it to be the pollen of the milk-weed, and recommend us not to destroy the weed. They say they have found it on the legs of young bee that have never left the hive. This can all be, and yet the milk-weed pollen be the cause of the trouble. My bees work lots of it off their legs during the night, which if a young bee comes in contact with, will also cling to its legs. I have caught some bees which others were dragging out of the hive, and took a pin and cleaned their legs of the pollen, then let them in, and they were unmolested. Mr. Editor, enclosed please find some of the pollen of the silk or milk-weed that my bees have worked off their legs and thrown out; perhaps it is old to you; if so cast it away without a look.

TROUBLE No. 5. My honey plant spoken of in the A. B. J., of October, 1871, p. 87, played off on me this year, or I was mistaken last year about its blooming early. I wrote my article August 10th, 1871, and said it was in bloom long ago. This year I watched it closely, and it only commenced blooming about the 1st of August. Last year was an earlier spring and harvest, which may account for its being also earlier. It is therefore rather late to fit in between spring and fall pasturage.

TROUBLE No. 6. I can't come within ten feet of Gallup and Hosmer. I have Langstroth and Gallup hives, weigh them every evening on as true a scale as can be bought. During clover and bass wood, the highest I ever received was eight pounds. Quinby says, p. 84, 3½ pounds is the greatest weight he has ever had, but I suppose Quinby did not extract at the time he wrote his book, he can no doubt do better now with the extractor. I did perhaps not extract as often as I should have done. Next year, if I live and keep my health, and my bees live and keep their health, I intend to extract one hive very close, but keeping them strong, and test the truth of some of those large yields of honey. To my mind, at least, bees will work as much for me as any other person. Bee-pasturage will make some difference in different localities. I am aware of this, but I have white clover, linden or basswood, cherry, peach, apple, raspberry, golden rod, and lots of other fall flowers, the names of which are unknown to me. Swarming was very scarce with us this year. I had one on the 15th of July. Reuben Hale, my neighbor, had one on the 27th. William Markle had three. I do not consider this an excellent year. Cold and late spring, wet summer, with cold nights, is in my opinion not so good for bees, yet I cannot complain of it being a poor season. Good will to the Editor and all his readers.

A MILLER BUT NOT A MOTH MILLER.
Duncan's Mills, Fulton Co., Ill., Aug., 1872.

Italian bees are not so much disposed to rob, or so liable to be robbed as black bees.

[For the American Bee Journal.]

The Song of the Queen.

It is a long time since it was discovered that a queen could sing. Many of the readers of the A. B. J., have heard the song of the young queen the night before swarming. It is generally believed that when the young queen is hatched, the workers prevent her from emerging from off the cell until the departure of the old queen, and that she shows her impatience by this plaintive song.

This is not always the case, for I have actually seen a queen out of the cell in the act of singing. It happened in this wise. I was opening a pure Italian stock, that had swarmed on the day preceding, for the purpose of removing the capped queen cells which the hive might contain. I found in one of the frames a queen cell, from which a queen had just hatched, and almost at the same instant, I heard the song of a queen on the frame that I was holding. I turned the frame over and over several times, but in vain. All at once the song began again, and I caught the queen in the act.

She was standing on the comb, perfectly still. When singing her abdomen was slightly distended. What was the cause of her complaint I am unable to tell; and after stating the fact I will retire and let others explain.

The season here has been very poor. Harvest lasted only from the 18th to 30th of June. Extra stocks harvested from 50 to 70 lbs. box honey. Average 15 lbs. per colony.

My father started for Italy, on July 9th. He will be back by the 10th of September with more queens than have ever been imported into this country before. Indeed American Bee keepers must be very foolish to spend so much money for such a humbug as the Italian bee. What do you think of it, MR. NATIVE?

C. P .DADANT.
Hamilton, Ill., July 12, 1872.

When the queen-bee is forcibly taken away from the hive, the bees which are near her at the time do not appear sensible of her absence, and the labors of the hive are carried on as usual for a time. It is seldom before the lapse of an hour that the working-bees begin to manifest any symptoms of uneasiness. They are then observed to quit the larvæ which they had been feeding, and to run about in great agitation to and fro; and on meeting with such of their companions as are not yet aware of the disaster which has befallen them, communicate the intelligence by crossing their antennæ and striking lightly with them. The bees which receive the news, become in their turn agitated, and spread the alarm further. All the inhabitants now rush forward, eagerly seeking their lost queen. But finding search useless, they appear to become resigned to their misfortune, the tumult subsides, and if there are worker eggs or young larvæ in the cells, preparations are made to supply the loss by raising a new queen, and the usual labors of the hive are resumed.

[For the American Bee Journal.]

Mortality of Bees in Illinois.

There has been great destruction among bees in this country. Hundreds of beekeepers have lost from one-half to all they had during last winter and spring. Full seven-eighths of the number that went into winter quarters have perished and have generally left plenty of honey. I am quite satisfied that this wholesale destruction was mostly from bad management, or rather from no management at all.

I will give my experience in preparing for the winter. I gave a brief account of our honey season of 1871, in A. B. J., vol. 7, p. 135. It was in the forepart of September that I found the crisis was coming, for the honey drouth of July and August was so severe, that the bees were consuming more honey than they were gathering, and that the queens had nearly ceased laying. Early in September, I found they were gathering honey very fast from Smart weed (Polygonum Hydropiper L.), and were filling the brood cells, leaving but small spaces for queens to lay their eggs in. I concluded at once that if permitted to go on thus, I would soon run out of bees. Having previously obtained a Hruschka from the National Bee Hive Company, of St. Charles, Illinois, I commenced extracting the honey out of the chamber, and supplying the upper chamber with empty combs, and I use the two-story Longstroth hive. This soon gave the queens room for laying, of which they soon availed themselves, keeping the stocks up to full standard. By this means they were fully prepared for winter both in bees and honey. When the time came to fix them up for wintering, I prepared them as I stated in my former letter, and they came through all right, in the spring without the loss of a swarm. Since I have adopted wintering them on their summer stand with proper protection, they have not been troubled with dysentery.

This season has been very dry, and the honey producing plants have yielded but little nectar. If the fall pasturage does not prove abundant, like last year, we will have to feed our bees for next winter.

I would like to have correspondents give the name of their county, as well as their State and post office. I would be glad if every beekeeper passing this way would give me a call. My fare, though humble, is always free to such. If they cannot learn something maybe I can. Send on the Bee Journal. We are never too weary to read it.

H. W. Wixom.

Mendota, La Salle Co., Ill., July 20, 1872.

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[For the American Bee Journal.]

Imprudence of Beeking.

In the July number of the Bee Journal, is an article with the above caption (which by the way, should have been headed Impudence of beekeepers), which contains some right and some wrong. As a general rule only successes are reported, and every year many poor victims dazzled by the idea of clearing $40 or $50 per swarm, go into the business only to be disgusted with it. The harm done is not to the beekeepers but to the victims. Let both be fairly reported, let them have some idea of the amount of sweating they will have to do in handling bees in hot days, of the number of stings to be endured even from "amiable" Italians; of the number of disappointments and vexations when the bees will do just the reverse of what is desired or expected, and then let them know that if they fight through all this, read good books and papers, and *learn the trade*, there is honey for them. I have no interest in keeping bees, only pleasure and honey. I have neither bees, hives, nor queens to sell, but so long as millions of dollars worth of honey goes to waste ever year, for want of bees to gather it, we should be large hearted enough to desire the greatest good to the greatest number.

But is it true that we shall suffer by having new comers in the field? Is there less money to be made in honey now than when less were gathering it? Compare the price of honey in the comb in different sections with the price ten or twenty years ago. Years ago the same cry was raised about fruit, "the market will be overstocked and it will bring nothing." To-day I cannot buy any fruit for less than three or four times the price I could when a boy, in the same place. I want enough intelligent beekeepers to come into the field, so that a regular market may be established not subject to great fluctuations; so that a staple article, found on the table of the poor as well as the rich, not only when company comes, but as a regular article of diet.

C. C. Miller.

Marengo, Ill.

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[For the American Bee Journal.]

Bee Notes from Morrison, Ill.

Mr. Editor:—In the May number of your Journal, "B" heads an article "Dronings," and takes out a patent on the caption, but gives his readers no specifications or limits; now I wish to find a little fault, or rather make a suggestion to the Editor of the Journal—that to beekeepers a most valuable requisite would be a department of "hints." * * * *

The spring has been cold and backward—business among the bees has made but slow progress with what few we have left—a great disaster having befallen beekeepers in this region and left many yards empty of their joyous workers—where last season stood many hives of industry, can now be seen standing or lying around the monuments of departed sweetness; many apiaries are gone entirely.

Of 35 good stocks last fall, I came out this spring with two, one in a box and one in a frame hive. One of my neighbors lost 50, all he had. A man near me that does not believe in the science of bee-culture, and does nothing but let his bees alone, only lost one out of nine, all in old box hives, and black bees, and standing out in as bleak a place as can be found in the country. The dread disease, dysentery, has taken our workers. Here comes in another wish that we had known of Novice's idea or knowledge of feeding sugar syrup in the fall. Here is where a "hint" would have been *very* valuable.

Now a suggestion. Mr. Duffield, on page 262, vol. 7, says: "If all the hives had the same size frames, &c., it would do an immense good. When can the beekeepers of the country have a better time to get uniformity in the size of frames than now? I for one am in favor of it, and am willing to adopt some standard, so that we can the quicker repair the damages should disaster again come upon us. What say you beekeepers, shall we do it?

Another suggestion: It is pleasant to read reports and doings from different ones as to seasons and prospects, results, &c., and one likes to read understandingly as to latitude and longitude, and when one reads an interesting item or article that has reference to bees, it is very unpleasant (to me) to have the writer's name only, or name, town and State; it is sometimes very agreeable to know the *part* of the State, all towns and post offices are not on the maps, but the counties* are, and so give us the counties and date in all articles, that we can form a better judgment and better comparison with our own localities. * * * *

Novice, in the June number of the American Bee Journal, asks his western friends a question, if the bees died with the disease *after* they begun to fly in the spring.

Now I can answer from the book. In the last week in February, we had warm, pleasant weather, and for some few days in the first of March bees flew splendidly. I had then nineteen stocks. I put out rye flour, and they carried in some. I began to feel happy in my sorrow, to think I had some capital left upon which to begin business again, but I was joyous too soon. We soon had a cold, wet and freezing time, that made everything tight, and my little pets began "passing away," some days one swarm, other days two or more, until I only had but two remaining. I lost the last on the 3d of April—my last Italian swarm, sorry I was, indeed, then. I looked among the dead and found the royal bird, and with an unpleasant sensation I spiked her with a pin, and have her now in my case. One favor from you, Mr. Editor—give us the Journal twice a month during the summer at least. We will pay you for it. That every subscriber may meet with success with his bees this season, is the earnest wish of

F. W. Chapman.

Morrison, Whiteside Co., Ill., June 11, 1872.

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* We thought we were over liberal in giving, whenever possible, the name of every contributor and his address; but it seems from this and another writer in this month's Journal, that we have committed the sin of omission. Well, we shall try to amend. Our practice is contrary to that of nearly all other papers who give the county, but carefully conceal the residence of the writer—dreading that their subscribers and contributors may be enticed away by competing journals, a fear which we never entertained, and which experience has taught to be groundless.—Ed.

[For the American Bee Journal.]

Things of Real Merit.

The R. R. Murphy improved extractor, is hard to beat, not breaking or cracking the tenderest combs. In fact it is about as near a perfect machine as can be. Next is the new honey knife of J. L. Peabody, very thin, concave in shape on the one side, and of course convex on the other. This you will readily see allows a very thin blade and still prevents springing. It works the best of any one yet seen in that line. Mr. Peabody has only sent out a few on trial, and has none for sale this season. Next is Mr. Adair's beefeeder. For cheapness and efficiency it is just the very best thing in that line I have ever seen. Two of those fitted into my nuclei hives feed four nuclei, and the cost is not over 2 or 3 cents each, and they take up no room in the hive, as they are fitted into divisions between the two nuclei. Now, Mr. Editor, I am not bribed to give those things a puff, but beekeepers are inquiring after them privately, and I prefer to answer them publicly. I have Mr. Adair's new idea-hive on trial, and shall report as soon as convenient, just what I think of it, even if some of my friends should get into spasms. I also built three hives of the same form, containing my own combs, and have them on trial.

E. Gallup.

Orchard, Iowa.

[For the American Bee Journal.]

FROM NORTHWESTERN OHIO.

A Visit to Dr. Sanford's Apiary.

Wearied with professional duties, and tired of confinement to the office, under the sweltering heat of the first week in July, with the thermometer at 98° in the shade, I resolved to take a stroll by way of recreation, into the suburbs of our pleasant village (having a population now sufficient to claim city honors). After a a half hour's walk, I found myself at the apiary of Dr. S. Sanford, which is situated on the east bank of the Ottawa river, and just without the city limits. The apiary is located on ground gently sloping to the eastward, and protected from the west winds by the bluff at the river's edge; making a delightful situation for an apiary. My natural love for bees, together with the interest always awakened by having the care and management of the "little pets," impelled me to make a tour in the apiary. I found the doctor among his bees, and after a short time, within which to rest and cool off, he kindly showed me though his apiary, and as it may be interesting to some of your readers, I will give a brief detail of what I saw and learned there of *his* mode of keeping bees.

The doctor put into winter quarters eighty-three colonies, of which number about fifty came out in first rate order; thirty or thirty-one were in bad condition, being weak in numbers and in stores, having suffered from the "dysentery," and two were dead. His loss was very small, compared with that of the beekeepers generally in this section of the country, as most lost from fifty to one hundred per cent. of the number they had last fall. Those that were weak, he stimulated by early and constant feeding, until there was forage for them to gather, and at the date of my visit there was not a single hive which did not seem crowded with bees and rich with stores; excepting those only, from which he had very recently extracted the honey, and they were rapidly filling up with "liquid sweets."

He is using the extractor upon twenty-eight hives, leaving the residue to store box honey. And here I may mention that I never saw bees take to the honey boxes with so little apparent reluctance, as the doctor's bees do; which I can account for, only by ascribing it to the kind of box which he uses. They are sectional, and capable of being enlarged to any size to conform to the size of hive upon which they are to be used, and may also be reduced to the size of a single comb. The bottoms are made of slats, such as are used in making frames for the brood chamber, and so arranged as to set over the frames in the brood department, but three-eighths ($\frac{3}{8}$) of an inch above them, thus making them of easy access to the bees. The bees seem to consider the surplus as a part of the main hive, judging from the promptness with which they build comb and store honey in them.

The doctor does not rely upon natural swarming alone, but swarms his bees at his own pleasure. His plan is as follows: He takes an empty hive and sets it in the place occupied by a full one, which we shall denominate No. 1; then he removes the combs from No. 1, and brushes the bees and queen all off in front of the empty hive, and returns the combs to No. 1; he then removes No. 2 (a full colony), and places No. 1 where No. 2 stood, and places No. 2 on a new stand. This is done while a large number of bees are absent in the fields, and appears to be a complete success.

We next examined his nucleus hives, and saw some queens which for beauty and size would be hard to excel. The hives in which the cells are reared, indicate by their numbers that the queen mothers are prodigies for prolificness, and their worker progeny fully attest their purity. The doctor is breeding queen bees to supply a special demand from customers, which he is unable to do in fall.

He showed me over two thousand pounds of extracted honey—taken from twenty-eight hives, which are of the number he had to feed in the spring, at three throwings each—which would make a man's mouth water.

He is selling full stocks as fast as he increases them by swarming, so that he will probably winter not to exceed ninety colonies this winter. *His* receipt against loss in winter, as well as for a large yield of honey, is to "keep your colonies always strong in numbers, if you have to feed to accomplish it," and I am induced to accept it as an axiom, as his experience is to me conclusive proof of its correctness.

J. E. Richie.

Lima, Ohio, July, 1872.

[For the American Bee Journal.]

On the Utility of Drones.

A distinguished writer once said: "A coxcomb is a drone in the human family." Beekeepers might say with as much truth that: "A drone is a coxcomb in the bee family." Truly drones are useful, but only to a certain extent. If we ask Madame Nature why she caused so many drones to exist, she will answer that in a wild state hives are far apart and that a large number of drones are necessary to insure the queen's fertilization. Indeed, Madame Nature never does anything to no purpose.

But in our present state of bee culture, hives are numerous and close together, for we see sometimes as many as three or four hundred stands together on an acre of ground. Many apiaries number over fifty colonies. In these places a large number of drones is undesirable. The usual amount of drones hatched by three hives would be sufficient to insure fertilization of as many queens as can be raised in one apiary. An apiary of one hundred hives probably raises twenty times as many drones as necessary. These drones are not only useless, they are also noxious. First, they consume a great deal of honey and require from the bees a great deal of care. Then they are always in the way during the working season, obstructing the entrance with their clumsy bodies. Besides, after the harvest is over, they have to be destroyed by the bees. Some people say that they are very useful to keep the brood warm. But I will beg my readers to notice that drones never exist except at times when the weather is so warm that it takes but very few bees to keep sufficient heat in the hive. Experienced beekeepers also know that the bees drive them away from the brood, and destroy them as soon as the harvest ceases.

What then shall we do to destroy the large amount of drones that hatch in our hives every year? The old fashioned beekeepers say: "Cut their heads off before they hatch." But this gives a great deal of work for the bees in cleaning out the cells. Besides, all the honey spent on these drones is dead loss, and the combs are still there for the queen to lay in at the first opportunity. Drone traps are out of the question for the same cause.

Once upon a time, there was a man who travelled through the country selling patent hives and the six secrets of beekeeping. One of his secrets taught how to prevent drone laying. His method was simply this: "Cut out the drone comb." Was it not a miraculous invention? The poor wretches that paid $10 for the knowledge of the famous secrets probably pondered more than once on the truth of the old saying: "Nil sub sole novum." (Nothing new under the sun.) Still, they *did* cut out the drone comb; but, alas! the bees immediately went to work and built it all over again. They would have drone combs by all means. What then shall we do? Why cut it out and replace it with worker comb. That was not very hard to find either, and it has been done more than once.

Let us now see the advantage of replacing drone with worker comb. In May, a good hive measuring 1,600 square inches of comb in ordinary circumstances, will contain about 1,100 square inches of worker brood, and 100 square inches of drone brood. During the harvesting season, therefore, it will contain 5,500 workers and 3,200 drones. This hive will perhaps gather 50 pounds of honey, if the season is good. Let us now replace these 100 inches of drone comb with 100 inches of worker comb. Then with no more trouble and no more cost, we will raise 5,500 workers instead of 3,200 drones. (There are 50 cells and 32 drone-cells per square inch. See Langstroth, p. 74.)

If 5,500 workers gather 50 pounds of honey, 6,000 will gather 54 6–11 pounds; gain will be 4 6-11 pounds, which, at 25 cents per pound, will bring $1.15.

Beekeepers, does this pay?

C. P. Dadant.

Hamilton, Ill, Aug. 1, 1872.

[For the American Bee Journal.]

One-Story vs. Two-Story.

Gallup, why in the world can't you let us use the "new idea" in a two-story as well as a one-story hive? If I am not mistaken, the patented features of the idea is to give the queen plenty of room. Now, if the queen prefers to keep her brood at the bottom of the combs in mid-summer, let her do so, by continually removing combs of brood from the lower to the upper story, and thus gain the same point as with the double width one-story, namely, having constantly room in the centre and at the bottom.

The bees will take care of the brood in the upper story just as well as in the lower, and *my* queens persist on going into the upper story to lay, although they have only two-inch auger holes to go through. I think likely Novice's plan of having no division between the two stories is better.

A few years ago, Mr. Marvin or Mr. Baldridge told me he intended making a double width Langstroth, but as I have never heard anything about it, I do not suppose he found any great advantage in it.

Say, Gallup, aren't you a little mistaken about that 1,000 pounds from one hive?

C. C. Miller.

Marengo, Ill.

A German writer says, "much time is saved in using tobacco smoke, and different other tools." His help uses 150 pounds of tobacco a year, besides this he smokes himself a quantity of cigars.—Hullman.

[For the American Bee Journal.]

The Season in Virginia.

Mr. Editor:—I have to report a poor season for honey. Forty stands have not yielded more than half the honey I obtained last year from twenty-two The drought set in so early as to cut short the crops of white clover, and our bees ceased to gather honey by the 25th of June.

It would gladden your eyes, however, to see one piece of fancy work I have—even Novice, I think, would open his eyes at a glass shade two feet high and ten inches in diameter, filled completely with beautiful honey, at least thirty-five pounds *net*. I propose to take it to our fair in Richmond this fall and hope it will stir our people up to the beauties, if not the profits, of apiculture.

I have only one stand which yielded as much as 75 pounds of box-honey; (I have never tried the extractor), and that is a hybrid, three removes from the pure queen. The fancy piece was made by unadulterated *blacks*, but from the slight opportunity I have had of testing the comparative merits of the two species (blacks and Italians), I lean decidedly to the latter.

B. J. B.

[For the American Bee Journal.]

Fastening Combs.

Mr. Editor:—Having fallen upon a plan for fastening combs in the frames in transferring bees, which I have not noticed mentioned in the Journal, I will give it for what it is worth: Take strips of tin, $\frac{3}{8}$ of an inch broad, cut them to such lengths that they will extend on the comb $\frac{1}{2}$ inch, after being placed upon the frame at any distinct point, bringing the two ends around the corners of the upright, or any other point where the operator chooses to place them, forming right angles, bringing the ends of the strips in contact with the comb, which strips, if desired, can be pressed slightly into the comb, and will be amply sufficient to hold the combs in place, though filled with brood or honey.

Bees have done nothing extra here this season as yet, and have thrown out but few swarms. Some in old box hives have not had a swarm, and no surplus honey. I have doubled my number by dividing. I have ordered a honey extractor of Mr. J. T. Peabody, of Bloomington, Illinois, but do not expect to find much use for it this year, unless the fall season is better than the spring has been. As regards numbers, the balance is in favor of the black bees in this locality. I have some eight or ten queens from an imported queen, purchased from a neighbor of mine, at $16.66, whose workers do not compare favorably with those from queens reared from a queen I purchased from Mr. Peabody last fall, which queen became a drone layer early this spring, before I could get her to stock her hive with workers.

Since I have mentioned this subject, I will state that I informed Mr. Peabody of it, and that he has promised me that if he succeeds in raising some fine queens, he will send me one.

B. F. Wigginton.

Scottville, Ill., July 14, 1872.

[For the American Bee Journal.]

The Summer in Orchard, Iowa.

Dear Bee Journal:—You will probably wish to know how the bees are doing up in this part of the heritage. My first swarm came out June 2d, and here was the trouble with the Italians. They would rear brood and swarm when they could not gather enough to build any comb whatever. I therefore used what spare comb I had, and bought some of my neighbors, and then had to suppress swarming entirely. Not one square foot of comb was built in my apiary up to July 11th, by either stock or swarm, excepting by one swarm in the Adair section hive, and that swarm I fed all they could consume, as I had no comb to spare for that hive. By the way, I may have something more to say to the beekeepers about hives this winter, even though it may cause my friend Furman to have another spasm.

July 11th. The bees commenced gathering honey, and I then set nearly every stock to building comb. My old thirty-two pounder gathered one hundred and twenty pounds in just six days. They had no combs to build. I have now, July 24th, extracted fourteen hundred pounds. Yesterday and day before, it rained; to-day they have gathered rapidly, and I have commenced going over them again, and find them all full. The first crop of Linden dried up or blighted, but the second crop is doing better; still, the season thus far, is no comparison to the seasons of 1870 and 1871.

E. Gallup.

Orchard, Iowa.

[For the American Bee Journal.]

Transferring Bees.

Perhaps many persons would do better not to transfer bees. If you have only box hives, by all means transfer at least one; but if you have part box and part frame, you can keep the box hives busy making swarms. This spring, I had five box hives and two weak frame hives. I have placed the box hives on empty frame hives, obliging the bees to go down through the empty Langstroth, and then when they were strong enough to spare a swarm, I removed the box hive to a new locality, a rod or two distant, and put a frame or two of brood into the empty hive, when the returning bees from the box hive made a moderately good swarm. If I had a queen ready, I gave them one as soon as they had started queen cells. One box hive was made with feet, so I bored a hole in the bottom of a Langstroth hive, and placed it on top of the box hive, fastening the entrance to the box, and obliging the bees to go up through the frame hive. I found I could take a swarm from each box hive once in two weeks, if honey yielded.

C. C. Miller.

Marengo, Ill.

[For the American Bee Journal.]

The Honey Yield in Milledgeville, Ill.

We take a little leisure to write a few lines for your valuable journal. Out of thirty-four stocks of bees put into the cellar last fall, on the first of March, we had twenty-four remaining. They were quite feeble, but gained slowly during May. From the blossoms of the fruit trees, I did not realize much. Clover yielded but little honey. The hive placed upon the scales denoted a gain of but one or two pounds a day until about the 10th of July, when I came to note an increase, up, up, 3½, 4, 5, 6 and 7 pounds. The 11th of July, eight pounds was gained. Novice like, I looked in earnest to see from what source this change comes, when I see the bees come nearly all from the east loaded with Linden honey, from a grove one-and-a-half miles away.

July	12th,	9	pounds	gain	noted.
"	13th,	10	"	"	"
"	14th,	9½	"	"	"
"	15th,	8	"	"	"
"	16th,	6	"	"	"
"	17th,	2	"	"	"
"	18th,	0	"	"	"
"	19th,	0	"	"	"

Since the 19th a little loss has been sustained.

We use the extractor with two sets of frames. We could not dispense with the frames. One can hardly conceive the satisfaction they afford, until they have tried them. We have been suffering from a drouth, but things look bright now from a recent shower, and we look for better times for bees. Friends Marvin, Lee, Hubbard, and a host of others, let us hear from you a little oftener.

With many good wishes for the Journal, we remain its friend.

F. A. Snell.

Milledgeville, Ill., July 22, 1872.

[For the American Bee Journal.

Supers.

After an experience of three seasons with nearly every variety of super, I still cling to the Colvin chamber, as by far the best means of gathering surplus honey. This chamber gives you the double advantage of a large receptacle, with a facility of subdivision (through the small movable sections of which I spoke in a former communication) equal, if not superior to any box arrangements, and solves the difficulty as between large and small receptacles so completely, that I wonder the system is not more generally adopted.

Alley's hive, I am obliged in justice to say, has done admirably well this season. All the boxes (nine on one side, and eighteen on the other, the first holding, say, six-and-a-half, the other two-and-a-half pounds) except two, have been filled with first-class honey. I would advise all my brethren to try at least one of these hives, and I think that (like myself) they will be induced by results to increase their orders. For *side delivery*, I consider it superior to anything I have ever seen, though still adhering to the opinion expressed above, that for *supers*, the Colvin chamber is unsurpassed.

B. J. B.

Barboursville, Va., Aug. 6, 1872.

Central Iowa Beekeepers' Association.

The Beekepeers' Association of Central Illinois, met in special meeting, at Lexington, McLean county, July 18th, 1872.

MORNING SESSION.

President, S. C. Ware, of Towanda, in the chair; J. Sawyer, of Normal, appointed secretary *pro tem.*

Messrs. Brooks, Peak and Price were appointed a committee to prepare questions for discussion. In the absence of the committee, the president made an interesting address upon the general subject of bee-culture, speaking particularly of the "New Idea" Hive, in which honey boxes are discarded. The committee presented the following report, which was adopted:

1. The best method of wintering, and spring management of bees.
2. The best method of increasing stocks and securing the greatest amount of honey.
3. Where, and how to transfer.
4. Is the frame hive superior to the box hive?
5. Is the Italian superior to the black bee?
6. General remarks on bee-culture.

Discussion on hives continued by the president, Messrs. Brooks and Reynolds.

AFTERNOON SESSION.

The convention proceeded to discuss the following topics:

1. The best method of wintering, and spring management of bees.

Mr. Cole stated that he had wintered twenty-five colonies on their summer stands, with the loss of five colonies.

Dr. Shilling moved his bees from the summer stand, and placed them near a fence, gave lower and upward ventilation; had fourteen colonies; lost none.

Mr. Brooks extracts all the honey from the two centre frames before putting bees into winter quarters; thinks this a successful method, as the bees need empty cells in the centre of the hive, that they may cluster in winter and generate heat; also recommends the making of a small hole in the centre of each comb, about four inches from the top of the frame, for winter passage for the bees.

Mr. Ware—Hives must have young bees to winter well; advises the use of the honey extractor on all hives having a surplus of honey in the fall, but leaving enough for the use of the bees in winter; also recommends the taking out one frame from the hive and placing the other frames at equal distance from each other; feed bees in spring a little each day (whether they have honey in the hive or not), to stimulate breeding, so that a sufficient quantity of young bees may be had as early as possible to gather honey in its season; otherwise the profits of the hive is a failure.

Mr. Brooks would stimulate, not only with honey fed into the hive, but by giving them early in the spring, until they can get propolis, buckwheat, rye flour or Graham flour, placing it in troughs so that bees can get it easily.

Rev. Mr. Luccock said bees will take corn meal in preference to any other flour. Winters his bees in the house with success; puts a cloth over top of frames, pours a syrup on it for hive feeding in spring and winter.

Mr. Ledgerwood recommends a covering made of wire cloth placed on the frames in continued cold weather, so that the bees may discharge thereon; his plan is to remove the hive to a warm room long enough to warm the bees, when they will ascend to the wire cloth and empty themselves; the cloth can then be removed and the hive returned to its place.

Second topic—The best method of increasing stock, and securing the greatest amount of honey. Mr. Anderson said large colonies are needed for the largest amount of surplus honey.

Mr. Brooks increases stocks by first removing the old hive some distance from its stand, and putting in its place an empty hive with frames properly arranged; he then opens the old hive and removes a frame of brood with adhering bees, together with the queen, which he places, after removing an empty frame therefrom, in the centre of the new hive. The empty frame is then placed in the centre of the old hive, the hives closed, and the process is complete; would give the old colony a queen cell if he had it at the time of dividing, if not, would open the hive ten days after the division and destroy all queen cells but one in the queenless hive.

The rule expressed by other speakers for increasing stocks was to have small hives and good queens.

Third topic—When and how to transfer. Mr. Ledgerwood, transfers in the spring of the year, as soon as warm enough to handle; transfer straight combs into frames, the cells the same side up as in the old hive, using a transfer board to lay the comb upon when transferring the comb.

Mr. Brooks said the safest plan, as a general rule, is to transfer when there is plenty of honey in the field.

Fourth topic—Is the frame hive superior to the box hive? This being generally admitted, the topic was not discussed.

Fifth topic—Is the Italian superior to the black bee? Mr. Ware asks, are not black bees as good as Italians? The question was answered in the negative by a number of speakers, who said the Italians are more hardy, more prolific, better honey gatherers, &c., &c.

The question asked by Mr. Ware was more

for effect than anything else, he being a friend and advocate of the Italian bee.

Sixth topic—General remarks on bee-culture. Rev. Mr. Luccock said it was not always the largest cell that furnishes the best queen; he had small queens that produced his best workers.

Mr. Brooks said the fair-sized cells, as a general rule, give the best queens.

Remarks by different speakers.—Queen cells taken from new combs give brighter queens than those taken from old combs.

Avoid, if possible, handling queens with the hands, as the scent of the fingers endangers the life of the queen when replaced among the bees.

Keep the bees together in the hive.

Change combs often, else the bees will degenerate in size. Italian bees in the West are handsomer and larger than those bred from eastern queens, the preference being given to the chestnut colored queens, as they are nearer the color of early importations, and are better in every particular.

FORAGE FOR BEES.

Mr. Sleath exhibited two specimens of honey producing plants, Rocky Mountain bee plant, and sweet clover, said to continue in bloom a long time, and to be continually visited by the bees; their use was strongly recommended. Alsike clover and buckwheat were also recommended.

Mr. Sawyer, of Normal, exhibited the "Peabody" honey extractor, and demonstrated its merits by extracting honey before the association.

Mr. J. V. Books, of Lexington, exhibited an observatory hive of bees, in which the queen, as well as the other bees could be seen performing their several duties.

A subscription, amounting to $3.50, was taken up to defray current expenses.

A number of persons signed their names and became members of the association.

On motion, the following committee was appointed to select topics for discussion at the next regular meeting of the association: W. G. Anderson, J. V. Brooks and J. L. Wolcott.

Report of a number of beekeepers of this and adjoining counties from spring up to July 18th, 1872, being a fair average report of the condition of bees in central Illinois.

E. Sager Hudson, transferred eight swarms in spring, increased to nineteen; no surplus.

Wm. P. T. Cool, Meadows, twenty-one old colonies; had five swarms; no surplus reported.

J. Hamer, ten colonies in the spring; had two swarms; but little honey.

J. H. Cox, Hudson, seven stands in spring; thirteen stands now, by artificial means; surplus, thirty pounds.

M. S. Sill, Blue Mound, three colonies; no swarms; hives all full; ten pounds surplus.

W. H. Anderson, Lexington, fifteen colonies in spring; have now thirty; no box honey; might have some extracted, if attended to.

S. C. Ware, Towanda, seventeen stocks; no swarms or surplus.

W. G. Anderson, McLean, eighty colonies; seventeen natural swarms; surplus 200 pounds.

J. L. Westervelt, Livingston county, eight colonies; seven swarms.

S. B. Ledgerwood, Forrest, fifteen in spring; fifteen swarms.

W. E. Price, Iroquois county, nine colonies; no swarms; no honey; hive covered with bees.

H. Peek, Normal, four colonies; four swarms; fifteen pounds surplus.

J. R. Nutt, three colonies; six swarms, surplus, two boxes.

Wm. Reynolds, Lexington, seventy-two colonies in fall, 1871; wintered them all in good condition; sold in spring, 1872, fifteen colonies; surplus honey in boxes, about 150 pounds.

On motion, the thanks of the association were given to the citizens of Lexington, for their hospitality; also to Messrs. Mahan & Co., for the use of their hall.

Adjourned, to meet in regular session in September, of which due notice will be given in the papers.

J. Ansley, Secretary.
J. W. Gladding, Cor. Sec., Normal, Ill.

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[For the American Bee Journal.]

The Yield in Bethlehem, Iowa.

Mr. Editor:—It is generally conceded that extremes succeed each other. Last season's abundant yield followed by the present one of scarcity, goes to prove the correctness of the old saying.

The spring was remarkably *cold* and wet, confining the bees to their hives; even when a fine day did come the flowers did not yield honey enough for their brood. We had three days that bees worked upon wild cherry, gathering to each strong stock about ten pounds from that time until the 1st of July. There is no honey producing flowers of any considerable amount, as we have no white clover, and but a few acres of Alsike, that did not appear to yield honey. Last year the bees literally swarmed upon it. About the first of July, Linden began to come out, lasting about five days, yielding about the same amount that wild cherry did. After that we have had about a month in which there are no honey producing flowers in bloom, unless early buckwheat should yield the necessary supply, which I doubt; nevertheless my bees are in good condition, and ready to gather their stores, should an opportunity be given them to do so. Don't you think, Mr. Editor, that such a season as the present my bees suffered some from dysentery. I lost one stock *in toto;* had two queenless, one drone laying queen, and about twenty with not over three pints each to the swarm. Whole number reported 52—should have been 53. If defunct bees had been in demand, I think I could have supplied them by the bushel. I will give my winter's experience in a future number, in time for putting bees in their winter quarters. Novice thinks Linden never fails, with me 1870 and 1872, looks something like it.

Fred. Crathorn.

Bethlehem, Iowa, July 15, 1872.

[For the American Bee Journal.]

A Query and Remarks.

Mr. Editor:—By this time I suppose you think I am very fond of asking questions. Like every lover of knowledge, I am not ashamed to let what I do not know be known. What I want to know this time is, if a queen is impure whose drone progeny is both black and Italians. This seems very strange, yet it is true. Some are marked very nice, but the stripes are dark, and others are entirely black, having no stripes at all. Her worker progeny are very nicely marked, all being of a uniform color and having three yellow bands. I raised some queens from her and they are also light, but I have not yet tested them. I watched the young drones as they came out and they are marked as above.

"Some beekeepers seem to be down on artificial queens. Well, I know nothing about their queens, but I do know that I raised some this season (black) that I would not give for some natural queens I have, in regard to prolificness. They may not be as long lived, and there are some that are not half as prolific as natural queens, but this ought not to discourage any one who intends to keep bees, for he must expect to have failures, and when he does fail in anything, he must not denounce it as impracticable, but try it again until he finds it is so.

C. E. Widener.

Cumberland, Maryland, July 22, 1872.

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[Translated from the Bienenzeitung.]

My Uncapping Instrument.

After I had procured for myself an extractor, I for some time uncapped the combs by means of a sharp knife. But this was too tedious work, so I set to work to invent a machine that would do the uncapping. To this end I constructed a cylinder 3 inches long and 1 inch in diameter, in which I placed pegs made out of strong wire, at such distances apart as would correspond with the cells of worker comb. With this I cut through the cover of the cells, the work going on very quick. But as the combs were often much injured by the pegs, I was not satisfied with the machine, and set to work again to remedy this evil. The idea then presented itself, that the covers of the cell being pure wax would readily melt. I took a small tin cup, put water in it and placed it upon a stove. When the water began to boil, I took the cup and gently slid it over the surface of the comb. And what joy! The covers at once dissolved and swam upon the honey. I place the thus uncovered combs in the honey extractor and took out the honey. The combs were quite clean, and were not in the least injured. The tin-cup being without a cover, the water cooled off so rapidly, that I was compelled almost every minute to warm it again. To remedy this, I had made an entirely closed box of tin in the shape of a smoothing iron. It is 3 inches long, 2 inches broad, and 1½ inches high, and contains about ½ pint of water. On the top it has a small opening like a flask, in which to pour the water. This is stopped with a cork. A handle 4 inches long is attached to this.

With this instrument I uncap my honey combs very readily, and since the water is shut in tightly, the instrument will not so easily cool off; I can readily uncover two combs without rewarming.

I hope that this instrument will lighten the labors of the beekeepers; any one can readily have one made for himself.

Adoloph Heller.

Kopidluo, in Bohemia, Sept.. 20, 1871.

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[For the American Bee Journal.]

A Day with Novice.

Mr. Editor:—In moving into Ohio, which I did last spring, I found myself in the vicinity of Medina, where our apiarian friend, Mr. A. J. Root, lives. I was not long in planning a visit to his apiary, where 8,000 pounds of honey, worth nearly $2,000, were *slung* out of sixty-four hives, two years ago.

A ride by rail of two or three hours landed me at the place.

About the middle of June last, I found him doing his second day's slinging, and from the number of barrels in sight, I thought him a man of "great expectations." Mr. Root very kindly explained to me all that I desired to learn in relation to his ways and means "of conducting his apiary." I enjoyed the day exceedingly, and returned a wiser if not a better man.

Mr. R. has been using for several years an equal number of the American and Langstroth hives, but, after cool deliberation, has piled Young America with three patents against the fence, and uses nothing but the Langstroth, or Langstroth simplified.

I find him to be a good inventive mechanic, and his "tin corners" are a very important matter to beekeepers, and is the perfection of beauty and durability to the comb frame; only by seeing them in actual use can we gain a true idea of their beauty and utility. I do not know how I can do the beekeeping fraternity a better turn than by urging them to send for a set and try them for themselves. It seems to me they never can be superseded, for what is there of a bee hive but a movable frame in a simple box or hive? Nothing. Therefore he who contributes to make the Langstroth frame (there is none other) *better*, and the box or case easy for farmers to make and easy for them to handle the bees with, contributes to the general good; but he who dabbles in mothtraps, claptraps and fanciful notions, throws dust in the eyes while he rifles the pocket. I speak as a practical apiarian, mechanic, and hive manufacturer.

D. W. Whiting.

Shelby, Ohio.

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For cleanliness and neatness, they may be a mirror to the finest dame.—Butler.

[For the American Bee Journal.]

The August Journal.

The Journal came to hand, a few days earlier than last month, thereby enabling us to make a few comments "on time." We cannot speak from personal knowledge of the merits of the remedy for bee-stings, related by Mr. Langstroth, not having a fondness for *such* experiments. Our way is to "extract" the sting immediately, and then bathe the parts with cold water—the colder the better. If we get badly stung, when our blood is heated from over exertion, we make a strong whiskey sling, and drink it at once. We have no doubt but this would prove effectual in any case, yet do not get stung purposely, in order to try the remedy. Mr. Langstroths' experience with the Italians as honey gatherers, agrees exactly with our own. And, then, Novice has had trouble with the honey extractor, and we likewise. We had been studying a remedy, too, and think we shall adopt something similar. We can recommend Novice's door step, for we have used one almost exactly identical for the past seven years. They have *paid* us for all the time and trouble they cost.

Basswood was nearly an entire failure with us this year. There were only three or four days that it yielded honey of any account, and we have known our bees to gather more in one day heretofore, than they did in the whole three weeks that it was in blossom this year.

We do not attribute the failure to dry weather, but rather to the unfavorable state of the atmosphere at the time.

There was an item in regard to Novice's prolific queen, that we overlooked in our hurry last month. Was she reared from an egg or larvæ, and how many days elapsed after the bees commenced the cell before she hatched? We think that the most prolific queens are reared from the egg, and in such stocks as are *well stocked* with young workers. Mr. Liston discourses upon the advantages of artificial swarming, and nearly all apiarians will agree that the way the bees manage the things when left to choose for themselves, is not conducive to either pleasure or profit.

We take no stock whatever in "Management for Luck," but endeavor to manage our bees with a fixed purpose in view of accomplishing certain definite ends. Whoever manages bees with the expectation that "luck" will accomplish any desirable ends, will be apt to be wofully mistaken. Yet Mr. Chapman gives most wholesome advice.

We now pass on to listen to friend Argo's story of his failure to control pure fertilization. We are sorry that he is so dispirited as to give up *trying;* for we think that it is quite essential that we be able to *fully control* this matter. Where would have been our improved breeds of cattle, horses, hogs, &c., if man had not been "master of the situation." And if we can only control this little matter of fertilization in confinement, we can make as much progress as the breeders of our domestic animals have. If may be "against nature" and even though "all attempts will fail," we are "*positively certain*" that the thing *can be done.* Not that we have discovered any method that will prove a success without a failure, but we have a plan, that we are sure—yes, "*positively certain*"—will be successful "nineteen times out of twenty," if rightly managed. But we don't use any fertilizing tent, wire-cloth cages, or any other expensive and complicated contrivances, either. The great secret as we believe is to bring queens and drones *together upon the wing,* without frightening the timid "fathers of the industrious hive." But as we have said but little upon this subject heretofore, we will not now leave it, with the remark that if any one wishes anything more from us upon the subject, that we will answer any questions through the Journal.

We are quite sure that many of the readers of the Journal would like to have friend Argo tell them how to increase thirty swarms to one hundred, and obtain so much honey, if the bees built their own combs. We have never, yet, equaled that, although having succeeded to our own entire satisfaction.

Friend Gallup must have been in a happy mood when he penned his "reply" or else possess a faculty for making things turn out pleasantly. That is right; let us all endeavor to cultivate amiable and friendly feelings, towards one another, work together for the good of all, and success, in the largest sense of the term will crown our honest efforts. We pass over the translations from the foreign journals, not that they are unworthy of notice, for we read them with interest; and hope you will, Mr. Editor, give them monthly hereafter. We notice one little mistake in our article last month; in the eighth line, after the words "Italian queens" read "with as much pleasure," and you will have our meaning. We now close, by wishing all beekeepers, prosperity in every *honest* effort to advance the cause of bee-culture.

Herbert A. Burch.

South Haven, Mich., Aug. 12, 1872.

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Bees are scarcely making a living this year. I cannot account for it. All conditions are favorable now, although during May, usually our best month, it was very dry. Last year I had a hive filled in six days after extracting during the month of June. This year they have increased none during May or June. My hives are very strong; have sixty. Can it be a case of overstocking?

I feel very hopeful yet, as we usually have good fall pasturage.

G. W. Bates.

Somerville, Tenn., June 17, 1872.

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A desolate and cheerless place is thus described by Southey, in his wild and wondrous poem of *Thalaba:*—

———— ————————" The solitary bee,
Whose buzzing was the only sound of life,
Flew there on restless wing,
Seeking in vain one blossom, where to fix."

THE AMERICAN BEE JOURNAL.

Washington, September, 1872.

All communications and letters of business should be addressed to

GEO. S. WAGNER,
Office of the American Bee Journal,
WASHINGTON, D. C.

Our readers will read with pleasure the interesting letters of Mr. Dadant, published in another part of the Journal.

We publish in this month's Journal translations of two very able articles on the "Theory of Wintering Bees." We will endeavor next month to give some further translations on the same subject. The true manner of wintering bees has been attracting in Germany a great deal of attention, and given rise to some discussion. We hope that the results will be such that we will soon be able to winter our bees with certainty and safety.

The time is approaching when beekeepers will hold their conventions. We trust that those beekeepers who are members of associations will see to it, that they are conducted in the interests of bee-culture, and not in the interest of some patent-right men who wish to use the association as a means of advertising their patents. Just such conduct as this has brought no little disrepute upon beekeepers' associations. The only objects of the association should be the interchange of each other's experience, and the discovery of the best methods of conducting bee-culture.

We have received inquiries from Ohio, asking whether the Patent Office had granted a patent for a bee opiate. Upon inquiry at the Patent Office, we find that there has been; and in explanation of what to some may appear strange, we would say that the Patent Office is required to grant a patent for any new combination of materials made for the purpose of accomplishing some specific purpose, but that they in no case enter into a decision as to the merits or worthlessness of the combination. We give below the specification referred to, stating, at the same time, that it is patented, and cannot be used unless the right is purchased from the patentee or his duly authorized agents. As to its worth or worthlessness, we give no opinion.

UNITED STATES PATENT OFFICE,

ALEXANDER Y. ROZENBURY, OF WATERLOO, INDIANA.

Letters Patent, No. 115,107. *Dated May* 23, 1871.

IMPROVEMENT IN COMPOSITION FOR STUPEFYING BEES.

The schedule referred to in these letters patent and making part of the same.

To all whom it may concern:

Be it known, that I, Alexander Y. Rozenbury, of Waterloo, De Kalb county, in the State of Indiana, have invented a new, useful, and improved composition, or opiate, for stupefying bees; and I hereby declare the following to be a full and exact description thereof.

The nature or essence of my invention consists in the composition or opiate for stupefying bees described in the following specification:

To enable others skilled in making compositions to make and use my invention, I will proceed to name the several ingredients, and describe the mode of mixing them.

I put into a bottle or jug, that will hold one gallon, half a gill of the oil of anise, half a gill of the oil of peppermint, seven-eighths of a quart of alcohol, and mix them well together, and then add two quarts of water and one table spoonful of white sugar, and mix the whole thoroughly together.

To use this compound, put fifteen or twenty drops upon some rotten wood, or other material that will burn and make a smoke, and set it on fire, and blow the smoke into the hive, which will stupefy the bees so that they may be removed, or their comb taken out of the hive without the danger of being stung by the bees, and without injuring the bees, as they will revive again on being exposed to fresh air, or by blowing air into the hive.

Having described my new composition, or opiate, for stupefying bees, and the mode of compounding and using it,

I claim as my invention:—

The above-described composition, or opiate, for stupefying bees, compounded in about the above proportions specified.

A. Y. ROZENBURY.

Witnesses:—JAS. S. BEST and AMOS HALE.

Our beekeeping friends will readily pardon our departure from the bee-line of the Journal when they read the extract given below, and will join with us in wishing Col. Joseph Leffel and wife much happiness.

MARRIAGE OF ONE OF THE SMALLEST MEN IN THE WORLD—A PETITE PAIR—THE CEREMONIES AND CIRCUMSTANCES.—Col. Joseph Leffels is known by everybody in this vicinity. He is diminutive in stature, but remarkably active and vigilant in business, so much so that by faithful and earnest attention he has amassed a considerable competency. He is one of the bee kings of this country, and his success in the management of these industrious insects has been the subject of much comment among the bee fanciers.

Col. Leffel is 45 inches high, weighs 55 pounds, and is 38 years old. From these figures it may be known that his stature is diminutive. The colonel sports a handsome moustache and imperial, and unlike the other diminutives of Thumb, Nut, Dot, et. al., his face is manly and his features strong. His mind is fully developed, strong and vigorous as his years demand. It is strange that the colonel should live to this age a batchelor, but such is the case. The blandishments of the female sex have been thrown aside, and immersed in the cares of business, he has had no time to devote to the pranks of Cupid. But where is the heart that has not at some time succumbed to the smiles of woman. To love is human, to marry divine. The lady whom Col. Leffel selected as partner of his joys and sorrows is Miss Evaline Beasley, a young lady who is but five or six inches taller than himself, weighs 75 pounds, and is 23 years of age.

The wedding took place last evening, at the residence of Mr. Reuben Leffel, about three miles from Springfield. There were present at the wedding only the relatives of the bride and groom, and Mr. Harrison of this city. The bridal pair were finely dressed. The groom arrayed in a broadcloth dress suit, with white vest, and the bride in pink tarleton with flowers tastefully arrayed.

The marriage service was performed by Rev. J. Steck, of the English Lutheran Church, and was impressive and appropriate.

After the ceremony was performed the bridal cake was served.

The twain who are now one, will pass the day in the city with their brother-in-law, Mr. M. Irey, and it is contemplated that a tour to Kentucky, where the bride's relatives live, will be taken shortly. The congratulations of a host of friends and relatives are extended to the petite couple.—*The Springfield* (*Ohio*) *Advertiser.*

In the advertisement of Mr. M. C. Hester, of Charlestown, Indiana, in last month's Journal, the following error occurred in the Post-office address: "Chorlstown;" whereas, it should have been *Charlestown, Clark county, Indiana.* Any persons having written to Mr. Hester, and failed to receive a reply, will now know the cause of it.

CORRESPONDENCE.

Bees came through the past winter weaker than usual; not much dysentery, so far as I have heard, about one-third ($\frac{1}{3}$) as many swarms this summer as common, none of which have gathered sufficient stores for winter; cause, drouth. Very little surplus; less than I have ever known.

E. S. F.

Washington Co., Ohio, 8th mo. 12, 1872.

Bees are doing very poorly in this section of the country. There has been no increase of swarms, excepting a few near the timber, and less surplus honey up to this date, than for years past. The exceedingly dry season may have been the cause. White clover has been very plenty, but the bees have gathered no honey from it. This is the report at the Beekeepers' Association, which met at Lexington last week. Accept my best wishes for the prosperity of the Journal.

Samuel C. Ware.

Towanda, McLean Co., Ill., July 24, 1872.

The season in this county for bees has been a poor one, up to this date. The weather has been so dry that white clover dried up about as soon as it blossomed, and at this date, one-half of the bees have no more than one-half enough to winter on. They may better their condition before the buckwheat season is over.

L. Burdick.

Galesburg, Kalamazoo Co., Mich., Aug. 5, 1872.

I am always glad to receive the American Bee Journal, and peruse its contents. In regard to bees in this section, I think one-half died during the past winter. In 1871, I lost thirteen colonies from twenty. In the past winter I lost five from seven. In May last, I purchased eight colonies, and now have twenty-two strong working colonies, and have two colonies that did not swarm. I have doubled a number of them. I have taken fifty-seven pounds of white honey from two of my young colonies, and this is as good quality as I ever saw. My bees are all *black.* I have started twice with Italians, and have lost them in wintering.

Thos. Pierce.

Gansevoort, N. Y., Aug. 1, 1872.

We have had too dry weather, altogether, for either crops or bees. My bees, however, have made some box honey, and there is considerable in the second story, which I shall extract, as well as in the lower story, before buckwheat blossoms. I expect a good harvest from buckwheat, as my swarms are strong, and in good condition for work. I received a Peabody extractor from Mr. Alley, a few days ago, which I put to a use yesterday, that I had not thought of when I ordered the machine. We had a very heavy rain and wind yesterday, after which I noticed the cover of one of my two-story hives on the ground. Of course, the contents of the hive had received a thorough drenching. It was most dark, but I succeeded in emptying the water and unsealed honey from all the combs in the upper story, which gave the combs a chance to dry. I shall serve the lower story in the same way this morning. There are some other accidents in the history of that swarm, which I would like to speak about, if I had time.

E. Kimpton.

Cedar Creek, Ocean Co., N. J., Aug. 16, 1872.

[For the American Bee Journal.]

Michigan Beekeepers' Association.

The fifth annual meeting of this society will be held at Kalamazoo, September 17th to 20th, same time and place as State Fair.

The sessions will be held in the Court House. There will be two each day,—morning session at 8 A. M.; evening session at 7.30 P. M.; thus not interfering with attendance at the fair.

Tuesday Evening.

Address by President Rood. Subject, "The Progress and Needs of Apiculture."

Wednesday Morning.

Queens and Queen Raising. Paper by J. M. Marvin, St. Charles, Ill.

Paper by Rev. Wm. F. Clark, Toronto, Canada.

Wednesday Evening.

Mortality among Bees during the winter of 1871. Papers by J. H. Thomas, Brookline, Canada; Dr. G. Bohrer, Alexandria, Ind.; and Rev. J. G. Portman, Benton Harbor, Michigan.

Thursday Morning.

Some Experiments. Paper by D. L. Adair, Hamesville, Ky.

Benefits and Methods of Artificial Swarming. Paper by Mrs. E. S. Tupper, Des Moines, Iowa.

THURSDAY EVENING.

Something about Hives. Paper by E. Gallup, Orchard, Iowa.

Address by A. I. Root ("Novice"), Medina, Ohio. Subject, "The Apiary and its Arrangements."

FRIDAY MORNING.

Voluntary papers and extempore addresses.

All the papers will be discussed, and other subjects may be proposed, at any time during the meeting.

Rev. L. L. Langstroth, father of Scientific Apiculture in America, will be present if health will permit. No subject is assigned him, as we shall all hope to hear from him on all subjects.

We are sure that we need add no other inducement to attendance, than the remark that all the above-mentioned papers are promised, and that Mrs. E. S. Tupper, and Messrs. Wm. F. Clark, A. I. Root, and Gen. Adair, all promise to be with us if business engagements will permit.

A. J. COOK,
Sec. Mich. Beekeepers' Asso'n.

AGRIC'L COLLEGE, Lansing, Mich.,
August 9, 1872.

[For the American Bee Journal.]

Compton, Iowa.

MR. EDITOR :—Bees nearly all died out here last winter. I had the best luck of any one I know of; I saved twenty nine colonies out of forty-five. Most of those that had but a few colonies have given up the business in despair, partly because they lost their bees last winter, and partly because, with the old box hive, they cannot make it pay. I have eleven of the Quimby box hives, two Langstroth hives, and the rest in Quimby comb frame hives. The frames in the Quimby hives are 11x19 inches. The main objection I have to them is, that the combs are apt to break when extracting the honey, especially when full of honey. I think if they were put crosswise, as Gallup makes his, they would be better. Being a carpenter I made my own extractor; it cost me about $9.00. I can use it quite readily. I have extracted about 250 pounds of honey this year, and have about 50 pounds in boxes. Bees did but little here till the first of July. I doubled up some of my swarms, as recommended on page 187 of the Bee Journal, and some of them I put in supers as recommended by A. Grimm. I like both plans very well. But I put a small swarm into a hive when they had swarmed once, but had become strong again; and the next morning I found my new swarm nearly all dead. I have been somewhat discouraged about beekeeping myself; so far I have not been paid for my trouble. I have taken great pains with my hives, and have tried to inform myself on bee-culture; and now that I have learned so much, I have to throw away what I have learned; so I think I shall try a while longer. The main bee pasturage here is white clover and buckwheat. I find I have to unlearn many things. I first studied Quimby and took him as my guide, but I shall follow him no longer. I begin to have a mind of my own on the subject. My bees were very weak this spring, and the strongest made but little honey till the first of July, so I concluded the fore part of the season was a poor time for bees. I lost a large number of combs in frames by not knowing how to take care of them. When too late, I learned that burning sulphur under them would kill the moths. I do not think that bee-culture will be over done in this country; but few farmers will try the business, and but few of those that try will succeed. I keep my bees in a dry cellar in the winter. I never lost a swarm till last winter. The rats trouble my bees in the cellar. How shall I prevent them from hurting my bees and gnawing my hives. Mrs. Tupper says rats and mice will not trouble bees, but I know better by sad experience.

LA FAYETTE NORRIS.

Compton, Iowa, Aug. 6, 1872.

[For the American Bee Journal.]

Bee Items from Oneida, Ill.

MR. EDITOR :—I think very likely there was considerable of a "smile" among beekeepers on reading Mr. Langstroth's quotation of Mr. Sydserff's remedy for bee stings. At least there was a big *smile* here. I am too much of a coward myself to stand and take sting after sting just to see whether he would stop the hurt and swelling of the first. I have been stung three or four times in my face, at one time, and and it will hurt and swell as bad as a single one.

I have read, that after one or two seasons of severe stinging, a person gets so inoculated with the poison that no swelling will follow the sting, which is true in my case. Last year and this year I received a great many stings, which at first would swell enormously, but now there is no swelling, unless on the front of my face, and then hardly enough to be noticed. The hurt is as severe as ever, though.

I use the deep frame hive, 10½x15 inches inside measure, and the brood is *not* at the *bottom* of the frame, but spreads from the top to the bottom, some of the brood cells being on the comb guide at the top. There is generally a small circle of honey in each upper corner, which grows larger as you leave the centre of the hive.

I hope brother Gallup will give us that promised article on wintering bees on their summer stands in time to utilize it, for it is impossible for me to winter them in any other way.

I think I shall remember my first experience with a honey extractor. I have one that I got up myself, and the first time we tried it, we put in a small piece of comb, forgot to put in the plug (which is at one corner), and set it whirling. The first thing we knew the honey was out of the comb, out of the can, and on to our clothes, the floor and table. You can believe we were satisfied *it would work.*

I suppose some speculating Yankee will be for importing some of those Australian bees, that have no stingers, but, if he does, he will have to put some *brass spurs* on to them (as they used to do on the Shanghai roosters), or the other bees would rob them.

No profits, to any amount, from bees this season in this vicinity, unless we have a better harvest in September.

We have had rains and strong cold winds the large part of the summer, though he have had a few intensely hot days.

We have a little extra honey on hand, but dare not dispose of it, as we may need it to feed the bees on before winter.

There is two or three other bee journals taken here and I get them to read, but I like the dear old American the *best of all.*

W. M. Kellogg.

Oneida, Ill., August 12, 1872.

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[From the Sulphur Springs (Texas) Gazette.]

Editor Gazette :—Thinking that it will be interesting to your readers, I give you the proceedings of a meeting held here last night, for the purpose of organizing an association to encourage scientific bee-culture, and to promote the interest of those engaged in this branch of industry.

The meeting was called to order, Hon. W. H. Andrews in the chair; then proceeded to organize, by electing the following officers to serve until a permanent organization can be formed :

Hon. W. H. Andrews, of McKinney, President; John W. Crabtree, of Sulphur Springs, 1st Vice-President; W. G. Suggs, of Mt. Pleasant, 2d Vice-President; J. Hervie Sparkman, of Sulphur Springs, Secretary; J. M. Wester, of Sulphur Springs, Treasurer; Wm. Sickles, T. P. Garret, and J. M. Wester, Committee to draft Constitution and By-Laws.

The following subjects were then selected for discussion at the next meeting :

1st. The Italian bee, as compared with the black bee—its advantages and disadvantages.

2d. Moths—their habits, effect on bees, and the prevention of the same.

3d. The requisites of a good hive.

4th. The advantages and profits of scientific culture over the old (do-nothing) system of bee-raising.

5th. Texas as a honey-producing country.

The association then adjourned to meet at Sulphur Springs, October 15th, 1872.

We hope to see all those engaged in bee-raising, in attendance, as we intend to make the meetings of the association interesting and instructive, by the discussion of the topics selected. We also hope to have some essays written by scientific apiarists, on subjects of interest to all.

J. Hervie Sparkman, Secretary.

Sulphur Springs, Texas, June 21, 1872.

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[For the American Bee Journal.]

The Season at Binghampton, N. Y.

We have had a very good season here. The bees have killed no drones yet. Alsike did well to start on ; then we had a cold, wet week, just when white clover should have done the best, and it yielded none afterward. In fact, we have seen one hundred bees in red clover this season, in June and July, to one on white clover ; but we always notice those seen at work on red clover have the full number of stripes ; the dark bees in hybrid stocks don't seem to fancy red clover. We had the best yield of basswood honey that we have ever known. There is but little basswood in this section, and so many bees having died off the past winter, I presume ours had the full benefit of all the basswood in the range of their flight. Not having weighed all my surplus, I can't report yet ; but from my best stock (which was in a standard Langstroth hive, as usual), I took in to the extent of eighty-one pounds gross, about the 25th of July, and it is now at work on buckwheat, in a case of twenty-four two pound frames, which are built down to the bottom with comb ; but most of my stocks had the swarming fever very bad, the last part of June ; honey yielded very slowly, just enough to keep them breeding rapidly, but not enough for them to build much comb in boxes, and the weather was excessively hot. My apiary is located in a very warm place, and in some cases, I have taken out nearly one-half of the brood combs and given them empty frames, cutting out all queen cells ; but they would swarm in a day or two, and if put back would come out again and go into some other hive or nuclei, and if prevented by blocks, would scatter perhaps into five or six other hives, leaving a lot of boxes on the old stand, partly filled. The side box hive is the best swarming hive, by all odds. It looks now as if I should not get a pound of surplus from them. I got none from clover, and if they do not pick up soon, I shall get none from buckwheat. Wishing all succes to the Journal, I remain as ever,

Yours,

J. P. Moore.

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[For the American Bee Journal.]

An Early Swarm.

This has been so far a poor season for bees. Little surplus honey will be stored. Swarming commenced late ; hybrids give the best satisfaction as honey gatherers. A swarm that was kept in the cellar all winter and fed, filled the hive with bees and swarmed the second day after being taken out, about the middle of April. Of course in this latitude there was no forage at that time, but by giving ready made comb and some feed they sustained themselves. I relate this as an unusual occurrence, showing that early swarms can be produced this way.

A NEW WAY OF HIVING A SWARM.

A few weeks since a swarm of a friend lodged in the top of a large sized willow tree some 50 or more feet up, no ladder long enough could be had, and the nature of the tree would not admit climbing, so the bees must go. But no, they hung, and hung, and stood a heavy thunder storm which rained and blowed tremendously without dislodging them. A hunter coming along, shot the limb off clear striking the ground with great force, and never did bees go into a hive quicker.

J. L. Fisher.

Tiffin, Ohio, July 15, 1872.

AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY SAMUEL WAGNER, WASHINGTON, D. C.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

VOL. VIII. OCTOBER, 1872. No. 4.

[For the American Bee Journal.]

NOVICE.

DEAR BEE JOURNAL :—We have had many little successes since we last wrote you, and some of our "pet ideas" have not been quite a success.

For instance, our half-ton feeder don't work quite as smoothly as the tea-kettle feeder. In the first place, the bees objected to going down into so large a box, so we took away their hive, and hung twenty-five combs just above the float and these were speedily filled in good shape. We removed them, and gave them fifty combs next ; these were partially filled, and then they began to grow lazy, and robbers began to get in. As the float lowered matters grew worse, and now they are dying on the float in spite of ventilation and all the care we can give them.

Perhaps, as a friend suggests, they are worked to death, for bringing two hundred pounds of syrup two feet high in twenty-four hours, is quite a job, and may be, our project of making one colony prepare the winter food for seventy, is not going to do after all ; but we are going to supply them with brood, and give it a further trial.

We were at one time quite hopeful of getting combs built by supplying the bees with sugar worked up with wax, on Adair's plan, but so far the amount of comb built is not more than the consumption of the same amount of sugar alone would produce, and the wax is left in irregular shaped masses, with rude cells partly fashioned thereon. We followed directions very carefully at two different times. Who has had better success?

Mr. Editor, the types in our last have, in several places, made our communication rather obscure, viz., page 51, left-hand column, line 15 from top, read "fair" instead of *first*, and in middle of same column, read "nailed" instead of *railed*, and omit the word "one" before partiality. Also, in middle of right-hand column, same page, read "chemically pure food" instead of *chemicals for food*, for we certainly would not drug our bees.

Some one writes us to please be a little more explicit in regard to the entrance to our hive, which we try to do as follows.

If you shove the hive forward, so that it projects over the bottom enough for an entrance, you will, of course, have an entrance as wide as the hive as soon as you have any that will allow a bee to pass ; but, if you cut away the lower *inside* edge of the front end board, and cut it deepest in the middle, you will have an entrance that is small at first and enlarges as the hive is moved farther forward.

Dr. J. A. Newton, of Booneville, Indiana, asks the following questions :

How deep are your frames, inside measurement, and how long?

Can bees be wintered on their summer stands in your hives, if protected by straw?

What is your opinion about double-wall hives, say four or six inch space all round, filled in with straw or sawdust?

Have your frames a cross-piece in centre?

My frames stand in the hive, on a fixed bottom board, and do not like it.

Would a frame twelve inches high be too tall to lift out easily, and would the combs be likely to break down?

Our frames are, inside, 8¾ deep by 17¼ long. Bees can be wintered as well in the hive we mention, as *any on their summer stand*. And we should give them no protection whatever, unless it be from the wind, but should endeavor to have them receive all the *sun* possible. Give them about ten pounds more food than when housed, and we think there will be little trouble.

In regard to double walls for hives for wintering, perhaps they have been as often tried and discarded by every one who becomes a bee-culturer, as almost anything else (unless it be fixing the frames at equal distances) and probably will be for some time to come. We will say briefly, that such a plan deprives your bees of very much of the warmth of the sun, and gives almost none of the advantages of a frost-proof, special depository.

Unless bees can be kept where water will not freeze, they had far better be as much in the sun as possible.

We really shall have to beg to be excused answering the last three questions, more than by referring to our circular, or we might be accused of using these pages for something we have to sell.

In answer to several inquiries, we would suggest that a building made frost-proof for wintering, is, on many accounts, to be preferred to a cellar, and as it can be located in the middle of the apiary, is much more convenient.

Many will remember the cases mentioned in Mr. Langstroth's book, and elsewhere, of colonies being wintered on four or five pounds of sugar candy; as this sugar candy is nothing more than sugar in a state of great purity, it is nothing so very strange after all. In fact it has been recommended that this candy be made into syrup, and we believe a quart was recommended as sufficient.

We, at one time, thought that cakes or bars of A coffee sugar, laid on the frames under the quilt, would be an easy way of preparing colonies for winter; but in that case sufficient water might not always be at hand, so that we think that, all things considered, the syrup sealed up in the combs the safest.

Box honey, in our locality, has been a complete failure, and in fact, is often so in seasons that are not unfavorable.

Even the Bay State hive failed to give a pound of honey this present year or last, and no swarms. It is owned by a friend who thinks that he might have obtained a fair profit had he used the extractor, as he did with his other colonies, over one hundred and fifty, and he is a very successful beekeeper, for this was one of more than average strength.

In answer to one query as to why he did not use the extractor on it this season, he replied, that it was that such large frames were so very difficult to remove. We mention this because we fear that the hive has been more lauded in these pages than it deserves.

It is not a fact that when large yields of box honey have been secured, still larger would have been received had the extractor been used; perhaps not *seven* times as much in all cases, as we have sometimes stated it, but enough more to much more than make up the difference in price.

Mr. Chapman, on page 61, did not understand us evidently. We meant to make our query this: Has any one had cases of bee disease when bees were able to fly daily? When confined to the hive by cold weather in March and April, in some cases, we have seen the same effect from it.

In regard to bee veils, we threw ours away last spring, and have not used one since, and must say we really believe we have been stung less than when they were used, and we could not now be induced to bother with them; yet stay! if we were again obliged to use closed-top American frames, a veil *might be* needed even by

NOVICE.

[For the American Bee Journal.]

How Gallup's bees wintered on their summer stands.

My large hives, I informed the reader, had a chamber 8 inches high for winter purposes. I renewed the honey boards and substituted a piece of course bed ticking, and in two cases a piece of old thick bed quilt. This was placed directly on the frames. I then filled the chamber full of dry chaff, pressing it down. Dry saw dust is an excellent material for this purpose. I nearly closed the lower entrance, and left the inch hole open. This hole is well up under the cover of the portico and shaded by it. The object of this hole, is in case the lower entrance becomes covered with snow, the bees cannot smother, and is what is called horizontal ventilation. Two hives I fixed in this manner; after putting on the cloth or quilt, I made a frame just to fit inside of the chamber, and nailed on it a course cloth. After placing this on the chamber, crowd down the frame and fasten it there. Now fill your chamber with the dry material, and if at any time you wish to examine the bees, lift off the roof, and then by lifting off the chamber all packing comes off with it. Now roll up the quilt next to the bees and make your examination, replace all and your packing will be undisturbed. Now the object of this dry material is not to absorb the moisture from the bees, but to allow this moisture to pass off instantly and surely, and yet not allow the animal heat to pass off too rapidly, or allow a current of air to pass up through the cluster of bees. To explain this more fully, suppose we make a tight box 8 feet square, and fill it with dry material, and place it over a strong stock of bees, in such a manner that all the moisture from the bees passes directly into this box, and there being no escape for the moisture, it must be absorbed and retained by this absorbing material.

What would be the consequence in a long, severe and steady cold winter. This whole box of material would be one saturated mass of wet and mould, and your bees would be in the same condition. They would have the dysentery, without a doubt, but place four inches of dry saw dust over the bees and allow upward ventilation above this saw dust, and all remains perfectly dry at all times and in all weathers. Both the saw dust, and the comb, and the bees below the saw dust, will stand any amount of cold, provided they are kept dry in the above manner. To farther test this, suppose we lay a board flat on this saw dust for one night, when the thermometer is 2[illegible] degrees below zero. In the morning we have perhaps an inch thick of frost on the underside of this board. Now the sun comes up, the weather moderates, and this frost melts and runs down through the saw dust among the bees. This is all wrong. Now remove the board and with the inch holes in the ends of the roof (covered by wire cloth), our saw dust is perfectly dry at all times and in all weather, and so are the bees. No person could ask for bees to come through in a better condition. Mine wintered as above in my own hives during the past winter. I have double-cased the ends of all my large hives made this summer, and by taking out the outside combs and substituting frames filled with straw or old clothes. A strong swarm will winter without the consumption of any more honey, than they would in a cellar or special repository.

All hives should be shaded from the warm, sun shining directly on the entrance in winter as it may entice the bees out to perish on the snow every sunshiney day. Two of my hives set on the south side of the grove directly in the sun, and those I shaded with boards. The large 32 frame hive set in the grove facing the east, and entirely in the shade, and the bees never even attempted to come out unless the weather was sufficiently warm for them to have a regular flight, which only happened twice a day during the winter, yet on stooping down and looking into the inch hole, the bees could be seen at all times, and that, too, in the coldest weather. The New Idea hives made this summer I have double-cased sides, and otherwise they are calculated to winter with some preparations of the others on the summer stands. Don't send us any dollars, as we certainly shall do as we have heretofore done. That is, whether our ideas are worth anything or not, in due time the reader will get them *free* of charge.

E. GALLUP.

[Translated for the American Bee Journal.]

Letter from Bruce, Canada.

MR. EDITOR:—I am still an admirer of the JOURNAL, and have been so now for some years. The varied and most interesting reports, connected with beekeeping from so many parts of the globe, would justify the change of its title from that of "American Bee Journal" to that of the *World*.

Generally the reports that reach you are from places favorable for bees. I should like to see in the *Journal* more reports from apiaries further north; for the nearer we are to the north pole with our bees, the greater obstacles will meet us in beekeeping.

Thousands of colonies of bees perished last winter on this side of the lines, but no report has yet reached you of the calamity. Here, it is common to see some homesteads, formerly enlivened with the hum of bees, and ornamented with rows of beautiful hives, now desolated, as far as bees are concerned. Here and there we meet a person lamenting over his loss, saying: "All my bees died last winter. I have not a bee left me. They had plenty of honey, and I cannot understand what destroyed them." The cause of this general destruction of bees last winter can easily be accounted for. The winter was unusually long and severe. Just think, Mr. Editor, I put my bees into winter quarters on the 24th of November, and could not venture to take them to the light of the sun till the 5th of April following, and then the snow was two feet deep. Besides, last fall was very unfavorable for bees in these parts. Breeding ceased very early, and as but few are hatched in winter during confinement, the most of the bees were old when taken out in the spring, and perished in their first flight. This, of course, left their colonies so weak as to have made hatching impossible. I am satisfied, the rapid decrease of colonies in spring, is owing, to a great extent, to the age of the bees composing them; and how to carry bees successfully through long and severe winters, so as to prevent their rapid decrease in spring, is a question of great importance among beekeepers, at least, among those whose lot has been cast in these northern climes.

If we could do as NOVICE did, air our bees on the 12th of February, even at the risk of newly washed white clothes being spotted, we would be all right, but such a thing is out of question here.

Can you, Mr. Editor, tell me why the strongest of bees, when put into winter quarters, often come out the very weakest in the spring? This I frequently find to be the case. May a hive have too many bees for wintering safely? To enable you, or any of the readers of the Journal to account for this, I may give you my mode of wintering. I put my bees in a cellar, which is perfectly dark, dry, and well ventilated; removing the honey-board, the chambers for the honey-boxes are kept full of air, by three inch holes through the caps. I close the entrances, and in this condition I leave the hives for winter. Ordinary colonies, in this way, winter to my entire satisfaction; but those that are *extra* strong with bees and heavy with honey, are for the most part of the season in a restless state; and consequently, large numbers of them die, leaving their combs besmeared with their excrements. I anticipate the general answer of my query? "Your bees are too warm," you will say. Well, I am inclined to agree with you; but how can I avoid it? The rest of my colonies do well. They could not do better anywhere. Should I put very strong colonies in a cooler place than a cellar? Would they do outside, where the winter is long and severe? What would Novice do, if in my stead? What would Gromm or Gallup do?

Gentlemen, let us hear from you through the Journal. Of course you must have had the same difficulty in your day. How did you overcome it?

But, Mr. Editor, though beekeepers have difficulties in this locality connected with long severe winters, yet they have advantages. They have no need of planting basswood trees, for they have a *forest* of them now, in full bloom, and if the woodman's axe would only spare them, the plantation process would not be required here for ages to come. We have also white clover in great abundance, and natural to our soil, from the 1st of May to October, and many other honey producing plants too numerous to mention here.

In my communication to the Journal, last season, I stated my belief that a queen may pair more than once. I am now more fully convinced that my belief is correct, for I have just now a most beautiful Italian queen, which produced last season as pure progeny as could be desired; but the most of her offspring this season show not a trace of Italian gold. She was hatched last year, early in the season; is now rapidly declining, and is actually an old queen. Can any one account for the change in the color of her progeny, but by the supposition that she paired with two different drones?

Let me relate another fact of some interest. Last spring I had a $10 queen, nearly three years of age. Her colony, till May last, was strong and active. Suddenly their activity ceased. They were at once examined. I found two queen cells in the hive just closed over, and concluded that my queen was dead.

I caged another in the hive to replace her, and left the cells in the hive. In two days I returned to liberate the queen in cage, but in my operation I discovered my old queen in full life; also, the two queen cells, which I removed. I liberated the imprisoned queen, and took my old queen to another hive, where she was safely introduced. She laid a few eggs among her new subjects, the most of which produced drones. In a week's time she disappeared. I suppose she died of old age: query. Is it a fact that the colony that first had her, discovering her infirmities, and anticipating her death, prepared for that event, even before it happened, or before she disappeared?

J. Anderson.

Tiverton, county Bruce, Canada.

* * *

[For the American Bee Journal.

How to Build a Beehouse.

As some of the readers of the Bee Journal may wish to build a receptacle for their bees to dwell in during the coming winter, I will tell "what I know about" building such a house, so as to secure *warmth, darkness,* and *ventilation.*

In the fall of 1870, I erected a building, 14 by 16 feet, from out to out; posts, 11½ feet; walls, 18 inches thick, filled with sawdust; two floors, 18 inches apart, with sawdust between; 12 inches sawdust above the ceiling; one doorway in south end facing apiary.

To secure ventilation, I placed a continuous tube, 6 by 12 inches, on the east, north, and west sides of the room, resting on the floor and against the walls, with outside sliding doors, same size as the tube, on the north and south ends of the building. On the inner side of the tube, I bored one inch holes, six inches apart, alternately, near top and bottom, the whole length of it.

Immediately under the ridgepole I placed a second tube, of the same size, extending the length of the building, with an outside opening at each gable end. A third tube of the same size extends from the centre of the ceiling to the tube under the ridgepole.

In the doorway are two doors; the inner is two inches thick (made of inch boards, nailed together transversely), and fits closely, opening inside the room. About 14 inches from the top of this door is a 1¼ inch hole, which is covered by a piece of glass on the inside, against which is placed a thermometer, so that the degrees, ranging from 25° to 40°, can be seen through the hole. A slide covers this hole, on the outside of this door. The outer door is one inch thick, has a six light, 8 by 10, sash in the upper part of it, and swings outside. Four tiers of shelves extend around three sides of the room. The top of the lower ventilating tube, being 7 inches above the floor, will answer for the first shelf. This room will accommodate one hundred colonies of bees.

The sawdust prevents frost from entering to any extent, the temperature ranging from 28° to 38°, during the winter.

If fifty or more colonies were in the temperature could be kept at any point desired between these figures, by opening or contracting the doors of the ventilating tubes. When the inner door is closed, no light can enter the room. When the wind is in the south, I open the south ventilating door and close the north door; when the wind is in the north, I open the north door and close the south door, by which means a current of air is caused to pass in at the ventilating door, through the inch holes, into the room; all impure air, in the meantime, will escape through the upper ventilating tube.

When I wish to use the extractor, I close the outer door and open the inner.

No bees can get to me, and the window in the door affords plenty of light.

The temperature of the room can be known at any time without disturbing the bees, by opening the outer door, and moving the slide from the hole through which the thermometer may be seen.

In this room, *warmth, darkness* and *ventilation,* are secured to my perfect satisfaction.

In the winter of 1870 and 1871, twenty colonies were in this house during 102 days. By weighing each hive and contents, when I placed it in the house, and again in the spring, when I took it out, I found the greatest consumption of honey by any one colony to be 13 lbs.; the least consumption, 2 lbs.; general average, 8½ lbs.

Every colony wintered well, save one, which was queenless when placed in the house.

Last winter I was not as successful. Peabody's Honey Extractor worked so nicely, that very little honey was left for the bees, when the season closed, and being very busy during the fall, I neglected to examine my bees and furnish them with needed supplies. The consequence was, several colonies died from starvation. Scarcely an ounce of honey was found in any hive in which the bees were dead. Very little sign of dysentery was discovered in any hive, though kept in winter quarters a month longer than usual. I attribute my loss to pure unadulterated carelessness, and nothing else.

John S. Dewey.

Spring Lake, Mich., Sept. 2, 1872.

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[Translated from the Bienenzeitung.]

Concerning Wintering Bees.

The sad tidings which during the past winter came to us of the loss of thousands of swarms, is proof positive of how dangerous and difficult a business it is, safely to winter our beloved bees. These many and often disheartening complaints of failures and losses, naturally do not seduce any to undertake bee-keeping, but on the other hand frighten beginners, and cause them to forsake the business.

The knowledge that so many of my bee-keeping friends are so desirous of learning more in relation to wintering bees, leads me to the choice of my theme. I can give nothing new and wonderful as the result of my experiments, but only call attention to what has long been known, but neglected, and which from various circumstances has been forced upon my attention. The great object with me in the conduct of my apiary has been to so winter my bees, that in passing through the cold seasons of the year, they will not lose the advantages they gained during the summer.

The apiary which was under my superintendence was situated on the side of a steep hill, over which, at about eight meters distance, a much travelled thoroughfare passes. The passage of the heavy wagons over this frozen road in winter, greatly alarmed, not only my bees, but injured the hearing of persons, and shakes from the foundation the houses of those living near the road. To this there is another disadvantage added, that there are neither trees nor shrubs to prevent the cold north and east winds from striking with full force my hives. No wonder that amid these difficulties I was much troubled how to procure rest during the winter for my bees, and to descry some place of protection from the cold. Having no cellar suitable for wintering the bees, I was forced to prepare a place in the open air. As I had little experience in such matters, I went to my bee books for counsel and advice, and after long search I came luckily to the Bienenzeitung, 1857, Nos. 16 and 17, containing an article of Pastor Scholz, of Hartwigswaldan. This article gave me much pleasure, as I found in it much more than I had expected to find. Quickly next fall, I built a bee-house, which did not work to the injury of the bees, but to their greatest benefit and well being, because every advantage claimed for his bee-house by Pastor Scholz, were found by me to be correct. The bees consumed towards spring about half the quantity of honey, and came out in a good condition, and populous, in spring, showing hardly any loss of bees whatever; the combs were neither damp or mouldy; they suffered nothing from thirst or want of air, and the hives, which formerly suffered much from exposure during the wet winter months, remained uninjured, and were safely protected from thieves. It was a most successful wintering. Since 1860, I winter my bees in such houses, and always with a like result. During the winters covered by this long period, I have not lost one swarm, excepting those not put into the bee-house. All calamities, as dysentery, want of air, thirst, &c., are unknown to my bees—they are and remain always quiet.

The desire for water is first observed in stocks after they have been removed from the bee-house some days, and have flown. Until then, water placed in troughs near the hive remains untouched. That my bees do not sooner feel the need of water, is to be sought for in these fortunate conditions, that, so long as they are in the darkness and even temperature of the bee-house, they have little or no brood, (the stocks upon being brought out are without brood), and the increase only begins when the hives are placed in daylight and the open air.

Just as bees require in spring and summer pleasant and warm weather in which to prosper, so, I hold, that warmth next to food, so placed that it can readily be obtained by the bees, is the chief requirement for safely wintering bees.

Notwithstanding I place my bees in the bee-house, I take especial pains to provide for them warm hives, and provide in every possible way for their safe wintering. In the fall the honey supply of each hive is carefully examined, the combs assorted; over the clustering place of weak swarms, who generally have their honey on one side of the hive, full combs of honey are placed; the interior of the hive is lessened; the tops of the hives are made air-tight by a coating of clay; the space between the tops of the combs and the hives, and the side between the combs and the door, are filled tightly with hay or straw, besides doors of platted straw are pushed in and thickly covered with clay.

Thus prepared my bees are placed in the bee-house about the middle of November, or as soon as continuous frost appears, and remain until the middle of March, when usually there occurs weather sufficiently mild to allow the bees, without danger, to have their first purifying flight.

It is a matter of indifference to me, in winter, whether the thermometer sinks down 20°, or whether the cold north and east winds play their michievous pranks, and howl and blow, for I have the knowledge that my beloved bees are safely protected from harm, and that when brought out next March they will greet me with a "Happy Spring."

Too closely or warmly protecting hives has been repeatedly condemned as injurious. This may be true when they are suffered to remain on in their summer stands, especially may it be so when unusually populous stocks are in pavillions, yet in the bee-house, I have never met with any injurious consequences. I place in them strong and weak stocks, and have repeatedly wintered queens with very few bees, and have always had them pass the winter safely.

Encouraged by my great success in wintering my bees, I desired to impart my knowledge to my brother bee-keepers, and to urge them also to try this plan, and to give their bees a suitable protection for the winter, and to reap the advantage of this successful system.

Alas! to the great majority my words passed as the idle wind; the groundless fear of suffocating their bees; the little pains and small outlay required for building are the reasons of the failure of the attempt. Only two bee-keepers, dwelling in my immediate neighborhood, who had seen how safely my bees wintered, and how strong in numbers they came out of their winter quarters in spring, were induced to adopt my system, which they have now used for some years with equal success. How easily and cheaply such a bee-house can be constructed, we will now proceed to show.

Towards the end of September, I select the position and remove the weeds, and gathering the needed wood, commence the building.

I place firmly in the ground, 9 meters apart, two posts, which should be about 2 meters above ground. To the top of these posts I nail fast a piece of stout scantling, and then attach to this the rafters, one end of which rests upon the ground, and upon these are nailed the slats, the whole having the appearance of a tent. Through the top a small wooden chimney is placed for ventilation.

As the ground upon which the bee-house is placed is very loose, it is not easy to construct the ventilating chamber suggested by Pastor Scholz. I, therefore, leave this and the drain entirely away, and instead thereof place at the end of the bee-house a small air canal made of three boards, two standing on their ends, and the third laid on top of them. When there is a severe frost, I stop this canal with hay; but in mild weather it remains open. To prevent the entrance of light into the chamber through this air canal, I place a broad board in such a manner before it, that it in no wise interferes with the draft. I then place upon this frame a layer of reeds or straw, 3 meters thick, leaving one end open for an entrance. This thatch usually unites at the top, but is usually too thin at the summit. This deficiency must be made up by placing upon the ridge some cast away flax stems, or potatoe stalks, which are readily obtained in the fall. The house is then covered with ground to the depth of about one half meter. Care must be taken not to overload the frame with ground. Should any of the cross pieces show a tendency to give way, they must be strengthened by supports. As the earth used for the covering will be taken from the sides of the bee-house, the small ditch caused by its removal must be made to slant from the sides, so as to prevent the earth from slipping from the sides of the house. Thus built, the bee house is ready for use. I reject altogether the layer of dead leaves recommended by Pastor Scholz, owing to their liability to take fire.

Mice are apt in the fall to seek to make these bee-houses their winter quarters. Care must be taken that they do not establish themselves in it. For this purpose I place in the air chamber a trap, where the mice are readily caught. My bees have never suffered any from the attacks of mice. The bees are placed in the house in this manner: The small sized hives are placed at the side, while the higher ones are placed in the centre where there is more room They are packed in closely aside of each other and on top. When all the stands have been safely placed in the house, the entrances of the hives, which in removal were closed, are again opened, and the entrance of the bee house will be closed with slats, covered with thatching and earth, just as the other four sides.

When I read of the various experiments aspiring apiarians have made to successfully winter their bees, I inwardly rejoice. I have had no desire to try any other method. * * Should I be successful in leading my brother bee-keepers to adopt a safe method of wintering their bees, I shall have been richly rewarded.

J. Klemke.

Mauche, February 6, 1872.

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* Meter—A French measure, 39.37 inches.

[For the American Bee Journal.]

THE THEORY OF WINTERING.

Extract from Butler, 1634. A. D.

At *Scorpis*, dress your hives for winter; cloome them close, mending all brakes and faults about them; and where the hackels be worn, set new in their stead, that they may keep the hives dry and warm.

After autumn the sun is drawing near the winter tropic, with a short and low course above our horizon, there follow three still months, (*Sagittarius, Capricornus, and Aquarius*), in which, as the plants lie still in the earth, waiting the sun's return to revive them, so do the bees lie still in the hives, passing this fruitless time in sleep and slumber. Yet so, that if there happen a mild and warm hour, they presently perceiving it, awake out of their swivet and hie them out of doors with all alacrity, that they may take the fresh air, recreate themselves, drink, exercise their wings, carry out their dead, and other noisomeness, and lighten their little bellies which are oftimes so stuffed when the weather suffereth them not to go abroad, that they can hold no more, so loth are they to defile their nests. And having thus refreshed themselves, at their return they take their repast and then betake themselves again to their rest. But many such days, specially in time of scarcity, are dangerous, as causing them to spend much of their store, which in still frosts they would spare.

The first foul and cold weather after mid-Saggitar, shut the wickets close to save the bees from the titmouse, and from the cold, as well within the hive as without. For as the frost and snow and cold winds, yea, and the ordinary disposition of the air, do chill many of them whom the flattering sunshine enticeth abroad, so the great frosts, striking through the door, do freeze the nethermost in the hive to death, so that by little and little many stalls, in some winters, have been thereby wholly destroyed, the which, by keeping them warm, might have been preserved. But when you shut them in, be sure the hives are always sure and close; but the bees, when they awake, will strive by all means to come forth, though they never find the way in again. But further experience of later times hath taught, that bees are best preserved in winter by a general restraint from the open air, that they may pass this time of no gain in sleep and slumber, with little waste.

RESTRAINT IS EITHER SINGLE OR DOUBLE.

Double restraint is the shutting up of the bees in the hive and of the hive in the house. Single restraint is the shutting of them in the hive abroad as they stand In both which are to be observed the circumstances of the manner, the time, and the place.

For the manner of the double restraint, either they must be carried in with the stool as they stand, or be set upon a board or plank, closely cloomed, the hackle put off, and the door barred, having not so much as a breathing place, with a numeral note of their standing in the garden fixed to the hive.

The time is the three still months, to wit: from the first hard weather in *Sagittarius* to the first calm and pleasant day in *Pisces*, (except continued good weather call them out a little sooner) when it is time to set every stall in his old standing again. If in the removing, you mistrust any stall for his lightness, it will be good, when they are come back again, warily to feed them, so that no stranger partake with them.

And for the place, it must be close, dark, and quiet. Close, that no heedless body come there to wag or jog the hives; dark, that the light draw not down the bees; quiet, that no noise awake them. What the poet said of the sound doubled by echo,

Ubi concava pulsu
Saxa donant, vocisque offensa resulta imago,

is meant of any (though chiefly of violent and reiterated) noise. And if the room be not free from mice, set traps for them, and often view the hives that there be no breach made into them.

This housing or double restraint seemeth most for the late and small swarms, of whose sufficiency you shall doubt.

The single restraint is fit for the best stalls; the manner whereof is, that they be close cloomed, fast barred (with a little breathing-place only if the hives be full of bees) and well hackled down to or below the stool.

The place (being their old standing in the garden) must be kept close and quiet, free from noise and noisome cattle, that may either wag or wake them.

The time of this restraint must be shorter, beginning the first cold day after *Mid-Sagittarius*, and ending the first warm and calm weather after *mid-Aquarius*; so soon as by their continual murmuring, the bees signify their desire to come abroad, then presently let them go.

If you distrust their safety in your garden, you may have them, for what time you please, within the compass of this single restraint.

And for the meddling sort of swarm, use either the double or single restraint; but, however, let them be without any breathing place, as having air enough in the vacant rooms of the hives, and give them the time of the double restraint.

Nevertheless, when restrained, bees are thus dismissed, if at any time, you fear a piercing night frost, you shall do well to bar them all up in the evening, and in the morning to unbar them again, unless either snow or rain, or boisterous wind forbid you. But while the snow covereth the ground, let them not out at all.

From Wildman.

Providence has ordained that insects which feed on leaves, flowers, and green, succulent plants, are in an insensible or torpid state from the time that the winter's cold has deprived them of the means of subsistence. Thus, the bees during the winter, are in so lethargic a state that little food supports them; but as the weather is very changeable, and every warm or sunny day revives them, and prompts them to return to exercise, food becomes necessary on these occasions. Mr. White is of opinion that a greater degree of cold than is commonly imagined to be proper for bees, is favorable to them in winter. If a sharp frost continues for two or three months without intermission, you may observe through your glass, that the bees are all this time closely linked together in clusters between the combs. If they are not altogether without motion, yet it is certain that they stir not from their places while the cold continues, and therefore eat not at all.

The following directions are given for feeding of bees in the *Maisonrustique*: Replenish the weak hives in September, with such a portion of combs full of honey taken from other hives, as shall be judged to be sufficient supply for them. In order to do this, turn up the weak hive, after taking the precaution of defending yourself with the smoke of rags, cut out the empty combs and put the full ones in their place where secure them with pieces of wood run across in such manner that they may not fall down when the hive is returned to its place. The bees will soon fix them more effectually. If this method be thought too troublesome, set under the hive a plate of liquid honey, unmixed with water, with straws laid across it, and over these a paper pierced full of holes, through which the bees will suck the honey without daubing themselves. This should be done in cloudy or rainy weather, when the bees stir least abroad, and the hive should be covered to protect the bees from robbers who might be allured to it by the smell of the honey.

The degree of cold bees can endure, has not been ascertained. We find that they live in the cold parts of Russia, and often in hollow trees, without any care being taken of them. Their hives are frequently made of the bark of trees, which does not afford them much protection from cold. Mr. White, therefore, confirms Mr. Gedde's observation that bees which stand on the north side of a building whose height intercepts the sun's beams all the winter, will waste less of their provisions (almost by half) than others which stand in the sun, for coming seldom forth, they eat little, and yet, in the spring are as forward to work and swarm as those which had twice as much honey in the autumn before. The owner should, however, examine their state in the winter, and if he find that instead of being clustered between the combs, they fall down in numbers on the stool or bottom of the hive, the hive should be carried to a warmer place where they will soon recover. He must be cautious in returning them again to the cold, lest the honey be candied as before observed.

Where the winters are extremely severe, the authors of the *Maisonrustique* advise to lay on the bottom of an old cask, the depth of half a foot of very dry earth, powdered and pressed down hard, and set on this the stool with the hive; then to preserve a communication with the air, which is absolutely necessary, to cut a hole in the cask opposite to the mouth of the hive, and place a piece of reed or of elder made hollow from the mouth of the hive to the hole in the cask, and after this to cover the hive with more of the same dry earth If there be any room to fear that the bees will not have a sufficiency of food, a plate with honey, covered as before directed, may be put under the hive. If the number of hives be great, boxes may be made of deals nailed together, deep enough to contain the hives covered with dry earth. The bees will thus remain all the winter free from any danger from cold, hunger, or enemies.

Every hive should have at least twenty pounds of honey in it in the beginning of the winter. If short of that quantity a reserved hive should be put to them, or they should be fed with clear honey put into a pewter dish covered with paper and put under the hive at night.

That bees suffer such degrees of cold as we are strangers to, without detriment, seems certain; nor is it easily accounted for, why a much less degree of cold becomes fatal to them in our mild climate. If I may venture my opinion, I think that in these extreme colds the bees are so perfectly frozen that their juices cannot corrupt or putrify; but they remain in the same state till the return of spring, when the change of the weather being sudden, the bees soon come to life; whereas, in our climate they are so far chilled as to lose the signs of life, and their juices being still in a liquid state, soon putrify, and real death soon ensues with corruption, the stench of which proves destructive to the live bees if the dead bodies remain long in the hive. It is, therefore, a good rule to examine the hive from time to time, whether any bees fall to the bottom, that if they do, the seeming or real dead should be removed.

Hives should never be placed on stones because they are susceptible of too much heat in summer, and are so cold in the winter that it is immediate death to every bee that lights on them. Even wood is then too cold, and, therefore, I would advise the owners of bees to have straw bottoms, in every respect similar to the straw covers already described, to be laid under the hive during the winter, that when the bees descend they may not be chilled by the coldness of the substance they light upon.

The bees have the sagacity to judge of the proper degree of cold, and when they feel it too great upon coming to the door, they drop their excrements on the stool and return to their companions, unless they are allured out by a bright sun. On this account it is proper that during the winter the mouth of the hive should not face the sun at noon, but rather the west. The mouths of the hives should be lessened so much during the winter, by means of a slide fitted to it, that there may be room left only for air, and to afford a passage to two or three bees

Even in spring many bees lose their lives, being tempted out by a bright sun in search of food. The mouth of the hive should, therefore, be continued facing the west, till all danger from cold is past; for if the mouth has been placed to the south, a clear morning may carry them out, being tempted by the glare of the light which shines in; but such a morning often brings a cloudy afternoon, which prevents their going out. When the season for working comes on they must not be restrained from going out by any bar in their way, for they become so impatient of confinement, that they will even die in search of an outlet, rather than bear imprisonment.

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Extracts from the work of Freyherrn von Ehrenfels, 1829.

The wintering of bees begins in our climate in the month of October, and begins everywhere when nourishment ceases, brooding diminishes, and the honey harvest has fully ended.

The examination of all the stocks as regards their brood, population, and honey supply, is the first and weightiest work of wintering. At the beginning of October most swarms have brood. Where this is found, one may feel assured that they have a fertile queen, and has the necessary foundation for well wintering. All such stocks should be marked No. 1. Stocks having no brood will be considered in a doubtful condition. They may have a sick and unfertile queen, or none at all. These should be marked No. 2. Stocks showing drone brood should be marked No. 3. No. 1 stocks are in a safe condition for wintering. No. 2 should be destroyed or united together. No. 3 should be destroyed for their honey, and the bees used to strengthen other stocks.

A populous stock, with little honey, will be easier wintered than a stock rich in honey and poor in bees.

The worker bee has, with me, more value now when work and forage cease, than in the spring when their loss is more easily supplied by the rapidly maturing eggs of a fertile queen. The old proverb, "That in spring every bee is worth one kreuzer," is changed by me: "In spring every bee is worth one kreuzer; in fall, two kreuzers."

With me, stocks having more than twenty pounds of honey, are considered safe for wintering. Stocks having less than twelve pounds are destroyed. Stocks having from twelve to twenty pounds, are supplied with honey.

Feeding with fluid honey in autumn, is not to be recommended. This fluid honey being uncapped and through heat, is made watery and sour; the brood place and winter quarters will be thereby narrowed and disturbed, and the honey will, in its fluid condition, be more readily consumed; with ten pounds of fluid honey uncapped, I will not have as healthy winter nourishment as with five pounds of capped, well evaporated honey, and the stock is better protected against robbery than when containing uncapped and unevaporated honey.

It is well known that more thousands of bees are lost through cold than hunger. Many attempts have been made to moderate the cold in the hive; the removal of the hive to cellars and rooms, their burial, and their artificial heating. Under all these modifications, the winter and a certain degree of cold, is the greatest murderer and notwithstanding the many plans devised, *the successful wintering of his bees is the master stroke of the bee keeper.* In its wild state, the bee protects itself by its numbers and its rich honey. It plasters its dwelling with propolis, seeks the calm forests, and avoids all drafts

These facts must be taken into account when wintering bees in a state of cultivation. The greatest preservative against winter cold, is to have your stocks populous; and he who understands the art of uniting them, can use each bee to the greatest advantage to the whole.

So long as the internal condition of the hive is properly regulated, I believe the bees can withstand the greatest amount of external cold; how, otherwise, could wild bees live in the cold north woods? A populous swarm can, by means of its animal heat, raise or depress the temperature of the hive, according to the demands of the weather. As from the heart of an animal warmth flows to the most distant parts of the body, so, from the centre of the swarm heat flows, and by the increased consumption of honey, increases according to the demands of the cold.

The fundamental rule of my practice is; *That wintering in the open air, even in the coldest weather, is the healthiest, and in its consequences, the safest.*

Bees wintered in buildings must be cut off for four or five months from the pure fresh air which is as necessary to them as to mankind. The severest winters have some mild days, when bees can fly out and purify themselves, and by changing their positions in the cluster, thus relieving the upper ones who bear the weight of the swarm, and also those on the outside of the cluster who have had to endure all the cold. These changes are prevented by wintering in dwellings. Their winters last nearly five months. Hence, many of the worker bees, and often the queen become sickly, and are more weakened by the loss of workers than those stocks that wintered in the open air.

The burial of swarms in sand, dry earth, wheat, etc., without any communication with the air, is unnatural, and should receive no encouragement. M. Spitzner well says: That, as regards the freezing of his bees, the beekeeper need give himself no trouble, even in the coldest winters, if he has done his duty in autumn. The most stocks *starve* and *not freeze* to death.

Extracts from the work of Johann Baptist Vogelbacher, 1856.

With the end of August the honey harvest usually ends, and now the bees must be weighed to see whether they will have enough nourishment until the beginning of their supplies next spring, or until March. You should know the weight of the empty hive and frames (mine weigh fourteen pounds); the bees and comb should weigh six pounds. Now each stock will require for the winter, at least from six to ten pounds of honey. Five pounds of honey make one maas. One pound of honey is usually sufficient for an ordinary swarm per month, a populous one requires more, a weak one more; when it has to be fed daily and the bees can fly often, a swarm will consume two pounds monthly. Hence, if a stock in September, does not weigh over twenty-six and thirty pounds, it will pass the winter with difficulty.

In the cold months, November, December, and January, a stock requires monthly one pound of honey; in February, March and April, owing to the rearing of brood, two pounds monthly. Were there flying days in November, December, and January, the bees will need somewhat more so that a well-conditioned stock will require from November till April, ten pounds of honey for successful wintering.

When, in autumn, you find that you must feed your bees, estimate what is to be done. How many stocks you will have to feed? How large a store of honey they have, and how many will need assistance?

If you have so many swarms that you will be unable to feed them all, cut out the weakest and give the bees and honey to other swarms. Better to winter successfully a few strong stocks than many weak ones.

Those that you wish to winter, feed just as you did in August and September, till each stock has its proper weight; because the bees now will carry the honey into the cells, cover it, and in winter will be quiet and undisturbed. To begin feeding in October, or November, is too late, as it is too cold and the bees are unable to cap the honey.

Should you have openings in the hive, the feeding can be carried on quite easily. At all times, even in the middle of the winter, if it is necessary, you can feed.

The sign that the bees perished through hunger, is when they lie before the door of the hive and on the combs in a weak, faint state; also when the bodies of the young, immature worker bees are found on the floor. Help must be immediately furnished, and those already weakened must be laid in warm, honey covered cloths, in order to revive.

[Translated for the American Bee Journal.]

Berlepsche's Views on Wintering Bees.

Translated from Die Biene und ihre Zucht.

Every rational bee-keeper will protect his bees from cold and light, may it be in a bee-house or a pavillion, or by placing them in a cellar, chamber, or by burying them in the earth. If the bees are placed in a pavillion or a bee house constructed according to my plan, the entrance may be open for the bees to fly on any quiet day when the ground is free from snow, and the thermometer stands 7° above zero, Reaumer, in the shade. In the evening the entrance is again closed until another favorable day. The same system of opening and shutting should be pursued where the bees are in a bee-house. Stocks that are placed in chambers, etc., are on such days permitted to fly, unless other circumstances should prevent.

Thus says Riem: "When there is no snow on the ground, and the weather warm, and no wind stirring, the bees should be suffered to fly." *Dauerhafte Bienenzucht*, 1795.

In opposition to this, Dizierzon and Schimed, Kleine, teach: "The bees must be kept as long as possible in their winter rest, and prevented from a too early flight. It is no injury to the bees should they not leave their hives for four months. The earlier the bees flight, so much the sooner will they begin to rear brood, and most of the young bees, owing to the cold weather, will be lost, and in May those hives which have been permitted to fly early and often, will be mostly weaker than those which enjoyed their first flight a month later, and have also needed more honey for the brood which was lost."

My experience teaches otherwise.

a. Even though it be true that many stocks could without injury endure four, perhaps more, months confinement without any apparent injury, nevertheless it is true that the average would winter better when they have been allowed one or more purifying flights. The longest confinement which, in my 46 years experience as apiarian, (my birthday as a bee-keeper was on June 22, 1822), I allowed, was in the winter of 1864 and 1865, when the bees were confined over 5 months, or 154 days, from 29th October, 1864, to 2d April, 1865; while in the winter of 1844–1845, they were only confined from October 28, 1844, to March 25, 1845. 148 days. But by far the severest weather which this generation ever experienced, was that of 1829–1830, which lasted from the middle of November to the middle of March, nearly 4 months In all these winters, even in swarms protected against the cold, there were many dead bees, and here and there dysentery appeared, and caused the loss of many swarms. How different in the winters of 1842–43, 1845–46, 1862–63, 1866–67, when the bees could frequently fly out and purify themselves.

b. Is it not natural that the rearing of brood should commence with the first flight of the bees? Strong stocks with proper supplies of honey and pollen, and the weather not too cold, and the moisture sufficient for the preparation of the food, begin rearing large quantities of brood some six weeks and longer before their first flight—have from 10 to 12,000 cells of brood and young bees, and are all in a healthy condition. Is the honey pure, and have the bees, either owing to cold or disturbance, been induced to consume more than usual, there is not much danger of the dysentery, and the nurses and their hatching bees can readily endure without injury, confinement of four weeks or more. Weaker stocks usually commence brood rearing only after their first flight.

c. The young bees are in less danger than the old ones of being lost in the colder days of the year, as they only fly out when the weather is suitable; and old bees would not fly out unless there is a want of moisture in the hive. The most bees are lost in spring, in their searching for water.

d. By closing the entrance and the slats of the bee-house, the flight of the bees on raw and windy days is easily prevented.

4. Often the bees remain in their hives until the end of February, yes, until far into March, without any opportunity of a purification flight, owing to the cold weather, and through disturbance is this desire greatly increased. The following suggestions are then to be observed.

a. Whenever a day free from strong winds occurs, and the thermometer stands 6° Raumer above zero, in the shade, preparations should be made for the flying of the bees. Even should a few bees be lost, that is better than to lose all through dysentery. The bees attacked with dysentery will linger long, and in the end die, while even several hundred bees lost can readily be replaced.

b. It is far more dangerous, when the bees from necessity are allowed to fly when the roofs, fences, trees, &c., are covered with fresh fallen, white, soft snow. It is not so much the coldness of the snow, as its dazzling white, which blinds the bees and causes their destruction. They being blinded, lose their way and become confused. and unable te recognize their place. The snow reflecting the sun in a very powerful manner, they seeking to fly from the sun, pitch into the snow and are benumbed before they are able to guide themselves. If there has been thawing weather or rain, the snow may have changed its color somewhat, and moreover, if the roofs and fences are free from it, there is not so much danger from the flight of the bees. They can rescue themselves better even than from wet ground, and those benumbed are more readily seen and helped. Before the bees are allowed to fly, the roofs of the hives should be freed from snow, so that they may have their accustomed appearance to the bees; shovel the snow away or pound it hard, if it be loose immediately around the stand, and sprinkle ashes, sand, chaff, etc., over it, to remove the blinding color. The snow should be shaken from the nearest trees and fences. Is the wind quiet and warm, and does the sun shine, not many bees will remain on the ground, as they can help themselves on the snow and again fly away. I must, with Vogel, protest against the use of loose straw before the hives, since, unless the sun shines upon it, it will not prevent the bees from becoming benumbed.

5. It is advantageous, also, if before the first flight of the bees, the floor of the hive would be cleared of bees and old rubbish. Grutzmann's new built bee-house, 1669, p 62. At no work are the bees more awkward and clumsy than in the burial of their dead. They fall with the dead bee upon the cold, damp, often snow covered ground, and can with difficulty loosen themselves from their burden. their claws becoming fastened to its body, and thus we have alongside the corpse a second one. In cleaning the bottom boards, one must work rapidly, and with as little noise as possible, and when cleaning a large hive, should have the assistance of a second person, because when the bees once begin to fly, this work is useless, as the bees will immediately undertake it themselves. Are the bees kept in a wintering house, they should be attended to first, leaving those on their summer stands for the last, because the former will become restless

on being removed to their summer stands, and especially in strong colonies, will come down to the bottom boards. Later, in from 8 to 10 days, must the cleaning of the bottom boards be attended to, as the bees cannot remove their offal any further than their combs extend. *Hofler*, 1614, *in Schroth's True Bee-culture*, 1660, *p.* 119.

At the back part of the hive, where at this season the honey now is, "offal will again accumulate, which the bees will allow to remain, since they do not protect the combs thus far. Here moths breed too easily and quickly, and soon ascend to the combs." *Martin John, Ein Neu Bienen Buchel*, 1691, *p.* 9.

This offal must not be thrown away, but placed in a vessel, allowed to dry in the sun and then sieved. The white or yellow particles are from the caps of the cells, and is pure wax. Spitzner, Basket Bee-culture, 1823, p. 113.

6. If the bees have been kept in a winter-house, the bee-keeper must be careful to place them as near as possible upon their old stands, as the bees, no matter how long confined during the winter, will not forget their summer place; and should they not be placed there, a sad loss of bees may follow.

7. Spitzner says: When the bees make their first purification flight, if you see few or no bees at the entrance, it is to be depended upon that the hive is in a bad condition. Such a stock must be immediately examined.

8. After the purification flight has taken place, the bee-keeper should carefully inspect his hives, to guard in time against queenlessness and defective queens.

Should the unrest continue in any stocks till towards evening; after their flight should the bees still continue to come out of the entrance and crawl around the hive, fly off and return abruptly back, are almost sure signs of queenlessness. A more urgent sign is when the swarm begins to buzz or hum. The difference in these tones are not to be described to a beginner, he must learn them from actual observation at the hive. * * * * * * Yes, a careful bee-keeper will always visit his bees in the evening after the purification flight. That is the time that he will discover queenlessness and other misfortunes, and be able to remove threatened dangers.

9. So soon as the bees have purified themselves, sometimes on the same day, but especially on the next flying day, they will search for water, in order to thin and prepare the honey for the brood. In getting water many bees are lost. It is therefore most advantageous to place water for the bees in a convenient place, protected from the wind. *Nichol Jacob, Grindlicher Unterricht*, 1601, *p.* 58.

In order that the bees will readily find it, and become accustomed to the place, it is well to entice them by putting, in the beginning, honey in the water, which should be slightly warmed and covered with small pieces of straw.

The water might be sweetened even later, but it is not so necessary, and in fact it is better not to do it, owing to the temptation it affords robbers. * * * When the bees have become accustomed to this place they will visit no other in search of water. It is best to put the water in long and flat dishes, than deep ones, and throw over moss, etc., to protect the bees from falling into the water and being drowned. * * * *

A hive getting out of honey in spring will perish. Usually the bees are found dead, but not always; because, before they perish they become numb, and if they have not been in this state for more than 36-48 hours, they may be restored to life, if they be removed to a room, the temperature of which is from 15° to 17° Raumer, above zero. The hive is inverted and the almost lifeless bees are thrown from the bottom boards between the combs. When some of the bees begin to move, it is only necessary to sprinkle diluted honey over them, and they will speedily revive. As some of the bees become more active, the room must be darkened, so that they may not fly away and be lost. It is not judicious to close the entrance. When a hearty buzz is heard in the hive, the room must be gradually cooled off, till the bees are brought to their normal winter state. "When there is no honey, the bees will first be unable to fly, then they will move around with difficulty, their movements becoming more and more difficult; at last they cease to move, and are dead." Donhoff, Bztg., 1857, p. 77.

Sometimes in spring, hives are found, having lost from various causes, a portion of their population, and from this cause the habitation has become too large, and it is absolutely necessary to strengthen them. The superfluous combs are removed from such hives, and the empty space stopped with some heat-retaining material. For should a weak stock winter in so large a room, it will be too cold, and will be so injured, while it will speedily regain its strength when the room is lessened and the proper warmth retained. Later, as the swarm strengthens, can the combs be returned, one by one. As I have before stated, it is really advantageous, in spring, temporarily to remove the superfluous combs.

[For the American Bee Journal.]

A Hint from the Old Country.

DEAR SIR:—Allow me to suggest to my American brethren, that in the manufacture of double or triple walled hives for wintering bees on their summer stands, all the front walls, except the internal one, should be of glass. It makes very little difference in the cost, but the advantage is in the fact that the inner skin of the hive gets all the benefit of every gleam of sunshine in winter, while the advantages of dead air spaces is preserved.

In summer the other or back end of the hive is turned to the sun, so that the dead air spaces may keep out the heat. My hives are made on this principle, and answer admirably; they are of the shape of square gable fronted cottages, and the top stories which are the super rooms, are also furnished with glass windows at the one end, so that in winter the sun may shine dead on to the honey board, and dry and warm the whole. C. N. Abbott.

Hanwell, W. London.

[Translated from the Bienenzeitung.]

Artificial Honey and Honey Surrogate.

About two years ago, the Bienenzeitung celebrated its twenty-fifth anniversary. The advancement in the theory and practice of bee-culture during these twenty-five years was then given in a brief review, but I do not remember anywhere to have seen the mention of artificial honey. Much was written in the papers, and long discussions held in the meetings of the Bee Associations concerning the theory and practice of bee-keeping; but concerning artificial honey, utterly nothing. The idea until now was unknown. It was reserved for Herr Mehring, from Frankenthal, to originate the idea and to enrich the treasury of the German language with a new word, and give to the students of bees and the bee-culture, a new *terminus technicus*.

As has been heretofore made known in the pages of the *Bienenzeitung*, by letters from Baron and Baroness von Berlepsch, that Herr Mehring exhibited, among other excellent things, a glass jar, which he claimed was filled by the bees with the Extract of Malt or thicken beerwort, wherefore he called this product artificial honey. The judges were in no little embarassment whether they should give a premium to the artificial honey or not; and I, as I saw from a letter, Prof Siebold desired to obtain my opinion whether the bees really changed the Malt Extract into honey. This wish I will attempt to answer in the following lines:

The judges gave the highest premium to the other articles of the exhibitor, but witheld the premium from artificial honey, and justly.

Artificial honey has a double meaning. You might understand by it, honey, which having been purified by art, is increased in value and prepared for greater usefulness, and differs somewhat in this respect from ordinary honey, just as through science Fruit is improved from its wild condition.

A premium given for this kind of honey would have misled a large portion of the public, who have had little experience in these things, to use this word artificial-honey in the above sense, and think that the premium had been awarded to an excellent quality of honey, for which a higher price would be asked.

The true meaning, however, of artificial honey, is a honey that is not produced from natural sources, from the nectar of flowers, but is made from a scientifically counterfeited or imitated bee-pasturage, and bears the same relation to natural honey, that artificial wine has to the natural juice of the grape. It can have, to many tongues, a very pleasant taste, and there is little use of disputing over it; and it can also be used for many medicinal purposes, just as the celebrated Malt Extract is used as a universal remedy, but it can never have the spicy and aromatic taste of the true product of the flower. Because the bees cannot put into the juice they bear into the cells any new material; they can only work up and purify, but cannot produce the fundamental elements.

There may be disputing about this, and the award of the prize at Munich has ventilated the question, whether the product of Mehring's receipt can be true honey, as, in this respect, the bees do not only seek profit from the flower, their best pasturage, but gather the sweet juice shed by the plant lice (honey-dew), and suck out the juice of sweet fruits and seek sugar refineries, and which we name plant-lice-honey resinous honey, &c., so there is no ground why that should not also be called honey which is made scientifically and fed to the bees.

It is well known that bees will readily take thicker malt extract or malt syrup. Fifty years ago, with my father, I fed the bees with prepared malt syrup for the purpose of stimulating brood-raising.

I dreamt at the time of stocks rich in honey made from feeding malt extract, but my dream passed away with the time. And if the bees do not repeatedly fly out and purify themselves, and if they do not bring in pollen and do not obtain the proper strength from the consumption of their food, they will neglect it and will be in danger of an attack of dysentery. During warmer weather, and when the bees are enabled to make continuous flights, further feeding is useless.

It is better for the bees to procure little but good food than to carry in much but bad honey, which only gives trouble and expense, and crystalizing during the summer, endangers the wintering of the stock. If one considers that, owing to the high price of grain and coal, this artificial food cannot be manufactured cheaply, and that the bees will in no wise store in the cells as much as may be given them, but will consume some portion, it will be readily seen that this work will not prove as remunerative as Herr Mehring expects; and that through the praising and selling of tasteless and unaromatic honey, a good article will be brought into discredit and lowered in price. The attempt to make bees a mere machine for purifying sweet juices or syrups will prove a failure. For this purpose we have machines which will accomplish this end by wholesale and consume nothing.

It is wholly different with feeding, taking the word in its true meaning in which it has heretofore been used, namely, for the purpose of furnishing the bees with food, not for storing in their cells, but for the purpose of making wax and stimulating the raising of brood, so that the swarm would be in a position to take the greatest advantage of the honey harvest. This malt extract is very useful to fill up the intervals between the several honey harvests, or to lengthen the harvest; also to aid late and weak swarms to complete the stores for wintering. As an inducement to building comb and rearing brood, a mixture of the malt extract is superior to pure honey, in that it arouses the activity of the bees sooner than the purer honey, and owing to the nitrogen it contains, compensates in a very great degree for pollen.

In autumn and winter, when the bees should be kept quiet, it is necessary to feed pure honey alone, as any agitation, especially in the rearing of brood, will produce disastrous effects. In the absence of pure honey, candy-sugar placed in the hives in pieces is the best substitute.

The swarm must be strong and the candy placed at a convenient place, and the moisture of the hive sufficient to dissolve the candy. In wintering stocks the candy may be placed on the floor of the hive beneath the bees. On mild days the bees will know of the pieces of candy and store them in their cells.

The necessary moisture for dissolving the sugar-candy is found on that portion of the hive where the warm vapor condenses. It answers well to fill the cells of an old, firm comb with water, and placing the candy upon this, shove it into the hive below the combs. * * * * When there is a space above the combs, it is advantageous to place the candy in this space, directly over the bees. Should this honey-space be too large, so that the cluster of bees will not reach to the roof, the space must be lessened by filling with moss, and carefully guarded against mouldiness and moisture. It is necessary in autumn to have the doors and combs so arranged as to be able to open them without disturbing the swarm; this inspection should be made about every 14 days, to see that the supply of candy was not exhausted, and in a position convenient for the bees; that there was no danger from dampness; finally, to enable the bee-keeper to give such assistance as may be deemed necessary During periods of severe cold, these examinations can be made in a warm room. DZIERZON.

Carlsmarkt, December 20, 1871.

[For the American Bee Journal.]

Letters from Mr. Dadant.

Brig, (Switzerland), *August* 4, 1872.

DEAR FRIENDS:—I am going to cross the Simplon Mt. to-night, but as the wagons do not connect exactly, I was forced to remain here for a few hours, and I take this opportunity of writing to you. I will be to-morrow in Tallanza, Locarno and Bellinzona, and thence through Arona to Milan.

Switzerland is beautiful. How striking is this intermingling of the soil—ravines so deep that it takes hours of toil to scale the summit of an ordinary hill! I went out walking to warm myself, for it is cold here. I climbed on a hill and saw Brig at my feet, and right by my side a torrent rushing at the bottom of a ravine 150 feet deep. One step aside of the track would cause certain death. I understand the anxiety of their families when the mountain guides do not come back home on the appointed day

Pallanza, (Italy), *August* 5, 1872.

At Paris, I was warmly received by the editor of *La Culture Polletan.* We visited together *L'abbe Sagot*, parson of *St. Ouen*, who was expecting me. After breakfast, during which meal we spoke of nothing but bees, M. Sagot showed me his apiary, which has been considerably reduced by his sickness, which rendered him unable to attend to them. His servant, who understood bee-culture very well, left him, and started an apiary in Picardy.

We afterwards went with M. Sagot to visit the parson of a neighboring village, *M. D'Hennery*, who is also a bee-keeper, and who had asked M. Sagot to bring me to his house. A hired carriage took us there in an hour. M. D'Hennery is young, and seems to be very intelligent. He commenced to keep bees four years ago, with Sagot hives, which he changed altogether to make hives *a la Langstroth.* His frames are 18 inches long, by 14 in height. He appeared very glad to see me, and although he said that he had once considered me as a bragger, he thanked me for the services that I rendered to the French bee-keepers, by making them acquainted with American bee-culture. "I followed your advice," said he; "I enlarged my hives, made large frames, and stimulated the laying of the queens; and I can affirm, with you, that some queens lay more than 3,000 eggs per day, during the good season. My 40 queens have not laid less than 2,200 to 2,500 eggs on average per day, during 30 days. But I have not succeeded as well as you in the results. Since I began to understand progressive bee-culture, I have obtained nothing worthy of notice. My best hive gave me 59 pounds of box honey. But this season is late and wet, and bees do nothing."

But while we were forgetting ourselves in our bee-talk, (although I had several times tried to take leave, and was always retarded by M. D'Hennery, who had offered us a bottle of fine old champagne), there was somebody in the next room who was grumbling at our interminable prattling. It was the maid servant of the parson, whose dinner was ready. It happened that the parson had some guests for dinner, and that, as we had refused to stay at dinner, and were still going on with our talk, the dinner was burning, and the servant growing impatient. But the parson was too much interested in the beehive to pay any attention to this, and he would have probably allowed his guests to dine without him had we been willing to keep on with our talk. "He will be scolded," said *l'Abbe Sagot*, when we started back in our carriage, "for a parson's maid servant is always a tyrant."

I wished to visit Mrs. Ad. Jarrie, but she was not at home, and I had to leave without seeing this intelligent lady bee-keeper.

I paid a visit to my mortal enemy, (1) M. Hamet, but he was not at home. I only found his wife, and bought a copy of the paper without giving my name. M. Hamet's office contains a library, in which I saw, among books and specimens of natural history, a large bellglass, two drinking glasses, and a large shell, all full of honey built there by the bees.

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(1) M. Hamet, editor of L'Agriculteur, and supporter of immovable bee-culture, opposed to all progress in hive-making, is the adversary of M. Dadant, who brought to France the American ideas. He even refused to accept him as a subscriber to his paper, on account of M. Dadant's criticism; and the latter has to get it from one of M. Hamet's subscribers in France.

There is nothing extraordinary in that, since bees build their combs in anything that is given them, provided it is clean; but M. Hamet probably thinks that it is admirable.

CH. DADANT.

[For the American Bee Journal.]

Milan, (Italy), *August* 8, 1872.

MY DEAR FRIENDS:—As you have seen by my last letter, I arrived through southern Switzerland.

I saw the bees of Pallanza, of Bellinzona, of Como. I could have bought some at Bellinzona, but neither the bees nor the queens pleased me. The queens that I saw had some black rings instead of the leather color that we like, even when it is dark. One of the queens that was shown to me was so dark that she seemed to be exactly similar to a black queen. SARTORI says that there is some black blood mixed with the Italian on the frontiers of Italy.

At my arrival in Milan, I was received with exquisite courtesy by Count Barbo (1). We visited the Viscount of Saliceto (2) together. Both belong to the nobility, and live in sumptuous mansions, with all the luxury of high life. Then we visited Sartori. The establishment of Milan for bee-productions, tools, hives, &c, thrives rapidly under his direction. This association paid 20 per cent. to the shareholders this year.

Unhappily the bees are in poor condition this year in Italy. All the bee-keepers that I have seen told me that they were obliged to feed their bees on account of the want of honey. The like has never been seen before in this country. This scarcity of honey made me fear that I could not find as many queens as I wanted, on account of the mortality among the bees of careless bee-keepers.

Sartori told me that he could not furnish me with queens, not even 100, for the epoch that I had designated. He wanted 15 days more and an increase of price of 1f. per queen. I consented to wait 15 days longer, and, thanks to Messrs. Barbo and Saliceto, he consented to furnish the queens for 5 francs. I granted him a week to inform me of the number that he can furnish.

The queens that Sartori showed me are all beautiful, but not bright in colors. They are of what we call the right color. The hives that I saw were well stocked, but without, or with very little honey. His bees are very mild; he opens all his hives without smoke, although they are destitute of honey, and they never seemed disposed to sting.

If I had not been very particular in taking nothing but yellow and young queens, I could have found the necessary quantity very easily; but a queen two years old has lost ⅔ of her value, and since I am here I must make the best out of my situation. I was offered 100 or 150 queens by Chevalley, to be taken from his apiary and that of his associate, *Lafranchi*, but I would have had queens of all kinds, without guarantee of age or color. On the other hand, Sartori being very conscientious, I will get nothing from him but choice queens.

Every year the country bee-keepers sell their second swarms and old stocks, and preserve the first swarms. But this year the swarms have been scarce and the hives are light, so that nobody wants to sell on account of the small value of the hives. Besides, honey seems to be more abundant just now, and they want to keep their bees in the hope that they will gain something in weight. So you see that I am anchored in Italy for a whole month. Happily, Messrs. Barbo, Saliceto and Dubini, will help me to spend my time by showing me the city and the apiaries of the neighboring towns.

I will go, to-morrow, in Venice, to see Hruska. If his bees are of good quality I will buy a few of them, but I do not believe that they are better than here.

I stay at Sartori's, and take care of his bees while he is travelling to buy queens.

CH. DADANT.

Milan, *August* 16, 1872.

MY DEAR FRIENDS:—Sartori has been out in the country during the beginning of this week, hunting for queens for me. I already have 126 queens, the larger part of which came from the country. Sartori does not think that he can furnish me with more than 300 queens in all, on account of the still continuing lack of honey. In a village containing 70 hives in the spring, there is but *one* remaining. All the rest starved to death. Sartori's bees desert their hives constantly for want of honey.

Bee moths are very numerous here, on account of the well known carelessness of the Italian people

Lombardy is, so far, the country where I saw the NICEST *and* MILDEST *bees.*

Every day I receive some visits. I have seen Countess Maroni, Count Carlo Borromeo, Count Castralani, Prof. Cornelia, the keeper of the Royal Palace of Milan, etc., etc. I will dine on Sunday with Dr. Dubini, and will go on Monday to visit the farms and apiaries of Viscount Saliceto. So you see that I am welcomed everywhere.

I have not visited Hruska yet. They say that he is often absent, so Count Barbo wrote to him to ask him what would be the most suitable day for him. When I go to see him, I shall probably visit a few apiaries in the neighborhood of Venice.

I saw the bees of Varese; they are no better than those of Mona, of Bellinzona. The keeper of the royal palace, who was born and raised in Turin, says that the bees of Piedmont are blacker and crosser than those of Milan. Count Castralani, who is from the vicinity of Naples, told me also, that the bees of Milan were more yellow than those of the southern part of the peninsula. Besides, Sartori, who was born in the Tyrol, says that he does not understand why Uhle, who raises queens for sale, has established himself in the Tyrol, where the bees are as black and as cross as hybrids,

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(1) President of the Central Association of Bee-Culture for Italy.

(2) Editor of L'Apicoltore, Milan.

It is therefore not to be wondered at, if one of our best breeders, M.——— calls Uhle an impostor, *in private*. Another American breeder, whom *I know* to be hard to satisfy, has ordered queens from Chevalley; he will certainly not like them.

I am now wondering why Mona wrote in an article in *Le Journal des Fermes*, that all the bees of the Italian peninsula were pure Italian, when he ought to have known that there were such enormous differences in their color and character.

August 19.

The Italian climate is very agreeable; the nights are cool, though not cold enough to be chilly. The heat, during the day, does not exceed 26° or 28° centigrades (78° to 82°). We had a big storm that lasted two hours.

I pass my time in preparing honey and comb in the frames, and receiving visitors. I was visited yesterday by the wife of the keeper of the royal palace. She had been urged by her husband to come and see me. This lady, who is quite young and good looking, and speaks French very fluently, offered me a queen of her own raising. I accepted, and shall go after this queen the day before my departure. Here, it is impossible to understand the language of the working classes, who speak neither French nor Italian, but Milanese. Almost all well bred people speak French.

The Viscount of Saliceto did me the honor of inserting in the five Milan newspapers that the celebrated American bee-keeper, Ch. D., had arrived, etc., etc.

Milan is a nice city, an artistic city, a city of princes—and of paupers. The rag stands by the side of the silk handkerchief. How much I do prefer the American customs. Here, they call the noblemen by the title of "Excellence," and they kiss their hands. It is pitiful to see how the workmen lower themselves before wealth.

Everything is at a high price, except that which ought to be the dearest, "work." The salary of workingmen is between 25c and 60c. per day. CH. DADANT.

[For the American Bee Journal]

Letter from Gnaddenhutten, Ohio.

MR. EDITOR:—The harvest is past, and I have a little time to attend, if not to bees, at least to the editor of the Journal. Bee-keeping is almost a complete failure with us this summer, although we had plenty of white clover, regular showers of rain, and everything seemed favorable for the production of honey; but notwithstanding all these, we got neither swarms nor honey; but then we depend mostly on box honey, and as the bees did not work in the boxes, we did not feel inclined to rob them of the stores in the hive, as we think they need it themselves in order to winter well. As we have very few basswood trees, or other honey-yielding flowers in this neighborhood, there is no chance for bees to gather honey after the white clover is past, and buckwheat is not to be depended on as a source of honey, and so we attribute our failure to the season. But when I received the August number of the Bee Journal, and saw Novice, (who lives only some sixty miles from me,) report in his letter nine and a half barrels of thick honey gathered this summer previous to the blooming of the basswood, with perhaps no better sources for honey than we have, it furnished food for reflection, and showed plainly the difference between the bee-keeper who understands the business and follows it, and the man who allows his bees to keep themselves; and almost persuaded me to become a bee-keeper myself. Although I have been keeping quite a number of bees for many years, yet I have never been a bee-keeper in the full acceptation of the term; for my time was taken up too much with other business to pay enough of attention to the bee busines to make it successful. SAMUEL LUETHE.

Gradenhutten, *Ohio*, August 8, 1872.

[For the American Bee Journal.]

Cloth Honey Board.

In answer to the inquiry from Owen & Ladd, I will say what I know of the cloth honey boards after further trial. I find that mine have fulled up somewhat, so that those which were just large enough to cover the frames are now rather small. Last year the bees covered every part that they could get at with propolis, without attempting to gnaw the cloth; but I find them a little inclined to pick at it this spring, if any part of it is exposed which was not previously covered with propolis. Perhaps the fulling from being in the cellar last winter, has loosened up the fibre in a way that gives them a chance to pick at it. There is some trouble about putting it on. The bees are all over the frames, and if care is not taken some of them will not get out of the way. These are disadvantages.

Now, as to the advantages. Formerly, I always kept a cold chisel to pry off the honey board, and then I had hard work sometimes, as the bees glue down the board all around the outside and build comb between the tops of the frames and the board. The jarring of the hive as the honey board came up with a jerk, aggravated the bees; but now they scarcely notice the peeling up of the cloth. This filling up of the air space with comb was a chronic nuisance, for if you cleared it all off they immediately filled it up again, wasting enough wax to nearly fill a comb. I strongly advise every one who has a frame hive, to try at least one honey cloth, if it be but to take a single thickness of cloth, and then put on the board over it. If I ever get my hives filled up again so as to need new ones, I think I shall have the sides come just as high as the tops of the frames, then have one thickness of cotton cloth large enough to cover the frames and also the top edges of the hive, and lay upon this two or three old newspapers tacked together. I hereby give Novice permission to try one without charge.

B. Lunderer.

[For the American Bee Journal.]

Introducing Queens.

On page 96, vol. 7, of the American Bee Journal, I mentioned a plan on trial for introducing queens. It worked well and I cannot see any possibility of failure with it. If any one is about to receive a valuable queen which he wishes introduced without any risk, I think it will pay him to take the trouble to introduce in that way. The plan is simply this: Bore a two-inch auger hole in the bottom of a Langstroth hive, tack a piece of wire cloth over the hole on the inside of the hive, and another on the outside; put into it one or more frames containing only sealed brood, some of which is just gnawing out; be particular not to leave a single bee on the comb, put in the queen, close up the entrance bee-tight, and place the hive over a full colony with no intervening honey board. The heat from the full colony rises, and in five or six days the hive of the new queen may be removed and opened, or the entrance may be opened without removing.

I find the following entry in my last year's journal in regard to the queen thus introduced: She was received by mail, August 1st, and put into the hive in the afternoon, with her half-dozen attendants and a couple of frames of comb containing a small quantity of brood ready to hatch.

"August 4, a few eggs and quite a cluster of bees; August 6, young bees flew; August 7, bringing in pollen."

As to the bees flying when five days old, I think I could not be mistaken; moreover, Novice mentioned something of the same kind when bees were hatched without any old bees. I am somewhat inclined to think there may be some mistake about them bringing pollen at six days old, yet I can hardly see how there could be any.

I am having an up-hill time trying to increase my bees. I had two queens in movable frames with about bees enough for one, and four box-hives (bought this spring) and one Langstroth hive, with comb built crosswise, making in all, two weak swarms in frame hives, and five box-hives.

As yet I have got only one young queen to laying, and lost her by putting in an empty hive and setting in place of a full one without waiting for them to start queen cells. The season has been very backward and cold.

I place a box-hive in an empty frame hive, obliging the bees to go down through the frame hive, and then when the box-hive is removed, the bees take more kindly to the frame hive.

C. C. Miller.

Marengo, Ill., June 19, 1872.

[For the American Bee Journal.]

My Failure.

Mr. Editor:—As you solicit the success and failure of beekeepers throughout the country, I will send you my experience for the last year, although it is not very flattering or encouraging to any one. The past winter was a very hard one on bees, the worst one I ever knew or ever heard of since I have paid any attention to the keeping of bees. I lost two-thirds of my stock with what is called bee cholera or dysentery, and on an average, two-thirds of the bees in this county died of the same complaint. Bees are doing nothing here this season. They will not gather honey enough to winter on, unless things change decidedly from what they are now. There is basswood enough within half a mile of me for two hundred strong stocks to work on, and do a good business, but this year it was a total failure. The bees were killing drones all the time it was in bloom. I thought that basswood never failed of yielding plenty of honey, but it was a failure with us here this season

Friend Gallup thinks that basswood will beat the world for honey. That is simply his opinion. I guess he would not think so if he and his bees were in this section of the country.

Many have assigned the cause and remedy for this bee malady. No cause that I ever have seen yet is at all satisfactory to me. Some claim that it was sour honey that killed the bees. I will admit that if there was sour honey in the hive, and they were obliged to eat it or starve, it would prove injurious. I examined hives that had not a particle of sour honey, it was as thick and solid as I ever saw. I would like to know what killed bees in such hives as that? I am afraid I am spinning my yarn too long about my failure with my bees. If it was about some great success or uncommon yield of honey, it would sound much better.

* * * * *

I have sent you a new subscriber. If every reader of the American Bee Journal would add even one new subscriber to its list, it would help the bee cause much.

D. Marsh.

Illinois, August 5, 1872.

[For the American Bee Journal.]

Notes from Northwestern Ohio.

Bees in this section of the State wintered so poorly last winter, that at least one-half perished mostly from the disease we call dysentery. Of those that survived, a majority were weak in the spring; and owing to the cool, backward spring they were yet weak on the first of June.

There was very little honey gathered until about the 25th of June, and then we had an abundant harvest until about the 10th of July, when the linden ceased to yield honey and all other flowers were dried up with the excessive drouth. Since July 10th, up to about the 10th of August, bees have not gathered enough to sustain them, but have had to go back upon their stores. One thing I notice, which to me appears uncommon, *i. e.*, notwithstanding the absence of honey in the fields, breeding has not slackened a particle, but seems to have increased rather, so that at this writing, I never saw colonies so absolutely crammed with brood. Is not this rather uncommon?

In June I attempted to queen a black colony by inserting a cell nearly matured (after removing the old queen of course), which hatched in about four days. The colony was in a box hive, and about the time the queen should commence laying, I transferred the colony to a movable frame hive, but could find no queen. In about three days, I again examined the colony, and found eggs in abundance, scattered all through the hive irregularly, but no queen was to be found. I made the most critical examination I was capable of, but could not discover from whence the eggs came. I then took a queen from a nucleus which had mated, but had not commenced laying, and placed her upon the alighting board and allowed her to run in, and, contrary to the experience of Hemme, she was kindly received as mistress of the colony. This might not have been, had I not introduced her after having had the bees out of the hive for at least half an hour hunting for the egg layer. The eggs were duly nursed by the bees, and. in due time, I had a fine lot of bastard black drones, a little larger than a worker bee.

Does a worker bee hatch in less than twenty-one days? It seems so.

On the 10th of July, in the morning, I took a swarm from a hive with the queen. and put them in a hive filled with empty combs, which had been setting in my stable since the bees died in it, last February, during which time there had not been a bee inside of it. I kept feeding this colony, owing to the scarcity of forage, and on the 29th of July, I examined the combs, and found young bees just emerging from the cells, while there were others which appeared to be twenty-four hours old. The queen I obtained from Grey & Winder, last fall.

Bees are now gathering honey quite freely, mostly from buckwheat. During the entire dearth of honey, bees gathered large quantities of pollen. From present indications, bees will be in much better condition for wintering this fall than for the two last.

One more winter like last, will make it easy to get subscribers for the Journal, as only readers of the Journal have been able to procure a particle of surplus honey this summer so far, or increase their stocks. At least this is the case so far as my observations extend.

J. E. Richie.

Lima, Allen Co., Ohio, Aug. 13, 1872.

[For the American Bee Journal.]

Dear Journal:—We have had our hands and minds so full of bees and honey, and other matters too, for the past six months we could not find time to drop you a line, and then we read many better articles in our Journal than we can write ourselves; but a paper, like a good pudding, is made up of many ingredients, and we are always willing, when able, to give our mite.

For several years past we have noticed the correspondence in the Journal, and reports from various quarters, of seasons, running thus: "Bees will not store enough this season to winter on." "The poorest honey harvest I ever knew." "No swarming this year, and but little surplus honey," and hundreds of other similar expressions which really appear strange to us. and we have not a poplar (tulip tree), linn or buckeye growing within five miles of our place. The seasons, for eight years past, since we have kept bees, (before that they kept themselves), have been like the toper's whiskey, none bad, but "all good, and some better."

My first swarm, this season, issued the 19th of April, and they have been swarming every week since, except the two first weeks in July, and strong stocks have been storing honey all the time.

If any one has learned how to keep the worms out of the boxes of honey in summer, without injuring the honey, after removing them from the hive, they have a wrinkle more than we have, and if they are at all communicative, we would be obliged if they would publish the plan. We have ineffectually tried for three seasons past, and failed and we won't tell you none of the *bad luck* we have had, and how we've been mortified, for folks would rather tell, as well as hear, of successes, and leave the reverses to be found out. Honey is made in this country, and a sight of it, but not fifty or more gallons to the hive, even if the hive were as big as a meeting house! but we have not a ready market at all times, and box honey being more preferable to the purchaser, and spring honey being nicer, better, and more saleable, the question not yet solved, at least in this climate, is how can we keep it clear of moths until winter? We could get double the number of pounds by extracting, but it will not sell, and what's the use of worrying and slinging and boiling to prevent fermentation, unless you can dispose of it.

Novice and Gallup have a heap of talk about the shallow chamber, the twin hive, and single stories. and frames in upper chambers, and all that, and one accusing the other of being muddy headed and can't see the point and understand. Now the fact is, there are some near-sighted thick skulls, in these parts, that haven't got the hang of that matter yet. There is a power of Gallup in all Gallup's articles, still, some are worth more than $1.00.

We don't know how many eggs a queen can lay in a lifetime, or her capacity in any given time, or whether she will lay herself to death in a sixty frame hive, or not, but will venture the assertion, that if Gallup will move his big hive to this country, before his stock will store six hundred and fifty pounds of surplus honey, his queen and bees will have become like my friend, Pat. O'Gorman's knife.—O'Gorman cut hoop poles, and said he "had a knife that had worn out seven blades and three handles." H.

Murfreesboro, Tenn., Aug. 12, 1872.

[For the American Bee Journal.]

An Old Stock of Bees.

Campbell Wakefield, Esq., of Heyworth, Ill., has a stock of bees that has been in the same hive for twenty-nine years. He informs me that for fifteen years not a particle of comb has been removed, and that most of the comb has remained in the hive the whole twenty-nine years. The hive is the old-fashioned "gum," being nothing but a hollow log with crosspieces. I lately examined, with some care, the size of the bees. There were several stocks on the same bench. Some of these were but a year old. I am obliged to confess that the bees were fully as large as any in the apiary. The idea so frequently advanced, that bees in old combs are so much smaller than those in new, does not seem to hold good in this instance. *Is it ever true?*

E. A. Gastman.

Decatur, Ill., Aug. 10, 1872.

[For the American Bee Journal.]

Monarda Punctata.

Last spring I got some of the plants and planted in my garden, which is a heavy clay; it did very well, and bees worked on it readily. I sowed some of the seed in a rich, loose piece of ground. It is now most all in bloom, and is about a month later than the plants. The bees are working on it nicely now at this date; it looks as if it would continue till frost. I gave some of the seeds and plants to my neighboring bee men; it makes a fine show on the sandy land of one of the beekeepers, and the bees are on it all day. This man thinks it will pay to cultivate it for the bees alone, and he intends to go into its cultivation more extensively. I think one acre of it is sufficient for thirty swarms to store up for winter on, and the honey is the best I know of, even better than basswood or white clover.

My bees and those of my neighbors were reduced about half during the long winter, being too long confined; but I have now got them up to the old number and in good order. We had a very dry season. The honey season was closed about July 5th. I did not get half as much as I got last season. I would like to hear of some more good honey yielding plants that come into bloom the latter part of summer and last till frost. Does anybody know how the Rocky Mountain bee plant grows, and how cultivated? Let us know through the Bee Journal.

Jas. McSay.

Madison, Wis., Aug. 30, 1872.

[For the American Bee Journal.]

Mr. Editor:—It has been about eight months since I have become acquainted with the American Bee Journal. I do not regret that I have become acquainted with it or the money that it cost, for in it I find a great amount of valuable information, if I was able to bring it into practice. But with the rest of my brother bee keepers, I have met with a great loss of bees the past winter and spring. Last November, I had one hundred and twenty-three stocks of bees. I reduced them down to sixty-two colonies which I put into winter quarters, giving them double the amount of ventilation that I gave thirty-two colonies the winter before last. In January, I noticed that my bees were sick with the dysentery. What to do I did not know. The weather being so cold that I could not let them fly out until the 12th of March. At that time twelve colonies were dead. I concluded not to put them back. When the spring flowers began to bloom I had only twelve colonies left and they were in very poor condition. I have now thirty-three colonies, and have obtained about one hundred pounds of box honey. Perhaps I may obtain one hundred pounds more. It has been very dry in this part of Michigan this season. If my bees collect impure honey this autumn, will some one please inform me through the Bee Journal what to do in order that I may preserve the life of my bees?

E. R. Weidman.

Grand Lodge, Mich., Aug. 26, 1872.

[Translated from Die Honeybiene.]

The Linden.

There is no tree of more interest to beekeepers than the Linden. How we rejoice at the unfolding of its leaves, and the appearance of the buds. With what interest we watch the swelling of the buds and then the opening of the first flowers. Then comes the golden harvest for our favorites. The happy buzzing of the bees among the leaves grows stronger and stronger from day to day, till at last when the blossoms send forth their exhalations far and wide, we with rapture hear their humming, sounding like the noise of a distant waterfall.

But not alone when in blossom does this noble tree yield food for the bees; but for three or four weeks before, there distils from the leaves a sweet juice which the industrious workers quickly transfer to the hives. The following are the various species of Linden.

1. Tilia Parvefolia hylrida, having large leaves, blossoming about the middle of June. In 1865, the first blossoms appeared on the 6th of June. When in full bloom this is the first to receive the attention of the bees.

2. Tilia Parvefolia, has leaves nearly as large as the foregoing species. Comes into bloom from six to eight days later, and is much visited by the bees yet no species is so much valued as

3. Tilia Europœa, which has small leaves and flowers, which latter appear in large clusters. It is the most cherished of all the species of Linden, and the rush of bees for its sweet nourishment is wonderful. It blossoms from three to six days later than the second species.

4. Tilia Occidentalis, has small dark leaves, and often covered all over with blossoms which are however not visited so eagerly as the blos-

soms of the EUROPŒA. It blossoms some eight to ten days later than the EUROPŒA. A somewhat less visited variety called winter linden, blossoms from three to six days later.

5. TILIA GRANDEFLORA, has large leaves, and is not so full of blossoms as the other species.

6. TILIA ARGENTEA, silver linden with short stalked leaves, with a silvery white underservice, with thick stemmed fleshy flowers, which open some six days later than the winter linden, but are much visited by the bees. This species has been but recently introduced here, and hence we have no old trees.

7. TILIA LAXIFLORA, has very large leaves, and its blossoms borne on long branches open some days after those of the silver linden. They are very scarce here, but are visited by the bees. In Fredricksfield park I first saw them.

Between those above mentioned species are many others, as for example ; the rose linden, whose leaves have a redish tinge, and also a species lately brought from Bosnia, and some American species.

[For the American Bee Journal.]

Summer Report.

Bees have done very poorly so far the present season. But little honey has been gathered and that of a very inferior quality. It is dark, thick and of disagreeable flavor. About equal to third rate molasses. I have been ashamed to offer mine for sale lest people might think I had been feeding a very poor quality of molasses. Swarms were quite numerous. Many of these will not make honey enough to carry them through the winter, unless the fall yield should greatly exceed that of the spring and summer.

The moth seems to be making unusual ravages the past few weeks. Weak stocks are the sufferers. E. A. GASTMAN.

Decatur, Ill., August 10, 1872.

[For the American Bee Journal.]

Sugar Syrup.

MR. EDITOR :—We cannot refrain from making some remarks on the last article of Novice, September No., page 50. It is very evident from his remarks on making sugar syrup for wintering bees, that his experience has been quite limited.

Until about eight years ago, the greater part of our life was spent in the confectionery business, and we think we understand the nature of sugar. We have kept bees over twenty years, and have experimented in many ways in feeding sugar syrup. Some years ago we got it into our head that we might make it profitable to make syrup to imitate the different kinds of honey, and have the bees store it in boxes in beautiful white combs for the market. But alas, we failed. The margin was over the left.

Several times in the past fifteen years we have wintered our bees on sugar syrup, not because at that time we considered it better than honey, but for the reason that the bees did not store any honey, the seasons being wet and cold. We also noticed that in the Spring the fæces on the snow were so small in proportion to what we had usually seen, that it puzzled us a little to understand it, and probably we might not have to this day, had not Novice solved the problem.

Now Mr. Editor, we will examine a little into the nature of sugar. Probably but few people are aware that there is a great difference in the strength of the grain of sugar, even the same brand and made at the same factory. Now this strong grained sugar will require more water and longer boiling to destroy the grain, and also more acid.

But we are opposed to the use of cream of tartar to any considerable extent, as we fully believe it to be injurious to the bees. If acid must be used, we recommend half a tumblerfull of sharp cider vinegar to every ten pounds of sugar.

We also contend that good sugar syrup fit for wintering, cannot be made without boiling.

We will quote Novice's own words. "We feel quite sure that no boiling is necessary."

Now friend Novice please pardon us, but here we must differ. Take a frame of honey candied and introduce it into a full swarm, and how long will it take before it will be reduced to the liquid state. We have never tested the set time, but are confident it will not be more than three or four days.

We will now give a strong swarm a frame filled with syrup made Novice fashion, by pouring boiling water on it, two and a half gallons to fifty pounds of sugar, and ten teaspoonsfull of cream of tartar, this to be thoroughly stirred till well mixed.

How different from the candied honey that requires heat to reduce it.

But the sugar syrup we said before made after Novice's plan will crystalize in a very short time. The more heat the hive contains, the quicker will it crystalize. For example, many of the articles of confectionery after boiling, such as rock candy, and many more kinds after they are prepared, are put into tight dark cupboards, with a temperature of eighty degrees, and they are crystalized in from five to seven days. We do not think it would crystalize so quick in the hive, it would take some time longer ; but after it takes this change, the bees might as well have their combs filled with plugs of wood, for it is a great deal harder than it was before melting.

We speak positively because we know only a few winters ago we committed this very error, and two or three swarms had several combs filled with this crystalized sugar, and several weeks before the bees could clean it all out, it was about as hard as stone.

Pains should be taken to make this syrup as near the consistency of first class honey as possible, and we contend that it cannot be done without boiling. First, you cannot melt the grain of fifty pounds of sugar with two and a half gallons of boiling water. You must dissolve the grain of the sugar before the acid will take effect. The water dissolves the grain and the acid prevents their formation again.

Now, friend Novice take your tub, put in your fifty pounds of sugar, and the two and a half gallons of boiling water. Make a paddle and roll up your sleeves, and stir this mixture two and a half hours by the town clock. Now take out your paddle and rub your fingers up and down the paddle, and if you do not find any quantity of grains on the paddle, I shall be much mistaken, and will forever afterwards hold my peace.

Now to make syrup according to my experience boiling is absolutely necessary. The sugar should be boiled slow so as to destroy the grain of the sugar, without using cream of tartar, but vinegar in its stead, and at least just double the amount of water that Novice recommends, and soft water at that if it can be had.

To those contemplating feeding syrup, I would say that the same old rule will hold good in this case as well in others, viz. : Haste makes waste, or in other words, make haste slowly.

For the benefit of those who wish to feed syrup, we give the mode in which we make it. To twenty five pounds of coffee sugar, two and a half gallons of rain water, one-half tumbler of cider vinegar to every ten pounds of sugar. Boil slow with cover on the kettle to keep in the steam. When you think it is about the proper consistency dip out a little in a saucer, and let it cool and you will then be able to judge if it is right. If you should afterwards find it disposed to grain a little, add a little water and cook again.

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Dronings.

I find that my modest title has called forth some rather captious criticisms, but as it was assumed unaffectedly, and in deprecation of that *snarling* style which unfortunately too much prevails in our peculiar community, I shall still adhere to it—

1. There is one primary and most important point upon which I (in common, I presume, with all inexperienced bee-keepers), need full and accurate teaching, viz. : How to have the combs built straight, so that the frames can be readily removed from the hive, whether for extractor or any of the manifold manipulations of the apiary. In nine cases out of ten I find that my bees, (apparently as unscientific as myself), will, in spite of all my precautions, build *across*, instead of *vertically* in the frames. This, of course, renders removal utterly impossible, and virtually makes it a box-hive. Novice says that he has all his combs built between straight combs, but if the *young* novice has no straight combs to offer as a model, what then? Comb-guides, I find, are by no means infallible; and I do hope that our leading apiarians, (such as Novice, Gallup, Marvin, &c.), will each give us a lesson on this truly important point, for without it we shall be tempted to abandon the movable frames ("*so-called*") in despair. The importance of this point must be my apology for referring to it again so soon.

2. It is time that some conclusion had been reached as to the *very best* plan for *introducing queens*. The great trouble with the novice is to *find the old queen*. Gallup advises that a queen shall be given to young bees exclusively. If this plan is fully endorsed, it will greatly simplify the process. for it will dispense with the main trouble, that of finding the old queen. I refer to his article in the June (1871) No., p. 288, commenting on Griinnis' efforts to give queens to old bees.

3 I can testify that Mr Butler's plan of uniting swarms is not only practicable, but advantageous. I tried in seven or eight instances this summer, and, (with one exception), it answered admirably. I also had two swarms to unite voluntarily. Not caring, of course, to separate them, although either would have constituted a large colony, I put them in an unusually big hive, (somewhat after Alley's style), and in exactly one month from the day they were hived, they had, (besides filling their own special compartment), made me at least forty-five pounds of surplus honey; but I was not greedy enough to take it all from them. B.

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[For the American Bee Journal.

An Inquiry.

What do queen raisers do with the old queen when they remove her and allow the stock to build cells? Do they always run the risk of introducing her to a strange colony? I have built a nucleus by taking the frame and adhering bees upon which I found the queen, and putting them into a new hive; also, put one or two frames from other hives, set this in the place of the hive from which the queen was taken, move queenless stock a few feet from the old stand. After the cells have been built and removed, gradually bring the hives together, and unite them by putting the combs into the hive with the queen. I have never lost a queen, but would like to know whether it is the best plan. Won't queen raisers tell me? E. A. Gastman.

Decatur, Ill.

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A Correction.

Mr. Editor :—Allow me to correct a few mistakes in the printing of my article on "The utility of Drones," page 63, line 11. Read : "During the harvesting season, therefore, it will contain *fifty-five thousand* (55,000) workers and 3200 drones." Further : "Then with no more trouble and no more cost, we will raise five thousand (5000) workers instead of 3200 drones."

Further : "If (55,000) *fifty-five thousand* workers gather 50 pounds of honey, (60,000) *sixty thousand* will gather 54 6-11 pounds; gain will be 4 6-11 pounds, etc., etc., etc."

Yours, &c., C. P. Dadant.

THE AMERICAN BEE JOURNAL.

Washington, October, 1872.

All communications and letters of business should be addressed to

GEO. S. WAGNER,
Office of the American Bee Journal,
WASHINGTON, D. C.

With the present number we present to our readers a large number of excellent articles on wintering bees. We trust they will prove a help, and prevent the great loss which bee-keepers suffered last winter.

When my father read to Mr. Langstroth the article upon the Bienenzeitung, printed in last month's Journal, entitled, "My Uncapping Instrument," Mr. L. suggested as an improvement over the use of hot water, plugs of soap stone, so made as to be inserted into the body of the instrument, in the same way as those used by tailors. The heat retaining qualities of the soap stone, would enable the beekeeper to use the iron for a long time, without any change.

At the recent celebration of the 400th anniversary of the University of Munich, Dyierzon received from the Faculty the title of Doctor of Philosophy, in recognition of his eminent services in the advancement of Apiarian Science.

Prof. T. C. Porter, of Lafayette College, Faston, Pa., writes us that the plant which was sent to us from Red Hill, Albemarle Co. Va., was the *Melilotus Alba*, L. White Melitot, Sweet Clover. "It is sometimes cultivated in gardens, and is occasionally found spontaneous in their neighborhood."

He further states concerning the pollen alluded to in the article of "Miller and his Wife, and their troubles," published in last month's Journal. "He is right about the pollen masses of the Asclepias. In the portion you sent me, they are very numerous, and can be readily made out with a lens of ordinary power."

We would be much obliged to those of our subscribers who are in arrears, if they would send in their remittances during the coming month. The safest way to send will be through a Post Office order.

At the request of Mr. Langstroth, we insert the following: Mr. Editor, please publish in the American Bee Journal, the following facts.

1. Before starting for Washington City, in January last, I purchased a double accident ticket of the agent of the "Railway Passengers' Assurance Company." The time covered by this ticket, for which I paid one dollar, was forty-eight hours, and the sum guaranteed was $6,000 in case of fatal injury, or $30 per week for injury causing total disability from business. On reaching Washington, my foot was run over by the wheel of a street car, and I have been totally disabled from my business for twenty-one weeks. I have found the company very courteous and obliging, and they have promptly discharged their obligations in my case. I desire cordially to recommend this company to the patronage of the traveling public. A single ticket, covering twenty-four hours, for twenty-five cents, guarantees $3,000 in case of fatal injury, or $15 per week, while totally disabled from business. L. L. L.

[For the American Bee Journal.]

Wintering Bees.

The winter of 1872 will be remembered by the bee-keepers as one of the most disastrous experienced. The causes of the loss of so many bees is well understood, or is supposed to be, namely: the large amount of honey dew gathered by the bees in the fall of 1871. This honey was stored in the cells and sealed, and did not sour, but it had a tendency to physic the bees, and caused dysentery. The only remedy for the disease, (if disease it can be called), was weather warm enough for the bees to fly out as often as once in two weeks. Apiaries protected from the cold north winds by buildings, fences, and even those situated in valleys where the bees could fly out in the middle of the day as often as stated above, came through safe and in good condition. Bees that were put in cellars wintered badly or perished. Many hives that were taken out alive in the spring, soon died. Their abdomens were extended to their fullest capacity, but they made no attempt to fly, even when the weather was warm; they seemed to understand that they could not raise their bodies from the hive. These stocks soon dwindled away, leaving plenty of honey in the hives. The only sure remedy is to remove the honey from the hives in the fall, and feed syrup made of granulated sugar. I have used this kind of feed for 15 years, and speak from experience. I do not guess that they will live upon it, but I know that this kind of food is much better than honey gathered late in the fall. I put about two quarts and one pint of water with six pounds of sugar; boil a few minutes; when cold, give it to the bees. Most any bee-keeper can devise a way for feeding his bees. All that is needed is to have a box, say one that will hold a quart; make it tight as possible with nails; then run some hot melted beeswax in the corners on the inside; make a float to fit inside the feeder, and small enough to allow for swelling, so that it will rise and fall as the feed is put in and removed. This feeder can be used with or without a cover. Glass is best for a cover when any is used. Fill it early in the morning or just before dark, at night.

I dont think it pays to feed new swarms unless they have the hive one-half or two-thirds full of comb. Old stocks, that have their hives full of comb and but little honey, should be fed.

For the past few days bees have gathered honey rapidly here, and many stocks that I had made up my mind to feed, will winter without feeding.

We are looking for a good season next year. We have had plenty of rain during the summer, and white clover will be abundant. Have sent out 650 queens this season, and never had better luck in raising them. H. Alley.

Wenham, Mass., September 16. 1872.

[For the American Bee Journal.]

The September Journal.

We were much pleased to know that friend Dadant has reached Europe in good health, without meeting any accident to mar the pleasure of his journey.

We do most earnestly hope that he may be successful in his endeavors to procure and safely bring to our shores, a large number of choice Italian queens. Believing, as we firmly do, that the Italian bee, in its purity, is far greatly superior in almost every respect, to our native black bees, we can fully appreciate the great benefit that will result from the success of the undertaking. Again, we recognize the need of a new importation of pure queens, *selected by a good judge of pure Italian bees*, from the fact that it is with the greatest difficulty that we are able to procure pure queens.

Is it possible that Novice has turned his attention to the bee-hive business, and set his wits at work to invent a "new hive?" So it seems, and then it duly takes three columns of the Journal to describe its simple features; another proof that those things which are the simplest and most readily understood when seen, are not always the easiest to fully describe. But we see that Novice has invented a new wholesale bee-feeder, which is making quite a sensation in the apiarian world. A few days ago, we received a letter from a prominent New York beekeeper, who asked: "How do you like Novice's new bee-feeder? Is he not going to extremes?" Well, perhaps so; but we hope it may be only to prove a benefit to those of us who move more slowly.

Do not be afraid, friend Novice, that your articles will get too long; we always read them the first thing after cutting and sewing the Journal; and very many of our readers no doubt do the same.

Sorry to learn that our friend, the Miller, (who is not a moth-miller), has had so much trouble. The best way to keep clear of the bees when running the honey slinger, in our opinion, is to make a small frame large enough to operate in, and cover it with musquito netting. Place it in the shade of some tree, convenient to the apiary. Of course it must have a close fitting door on one side. We see that many who use the Mel-extractor, claim they can run the machine anywhere without being annoyed by the bees. But we cannot; perhaps our bees possess a better taste for stolen sweets than those of others.

The articles which friend Gallup mentions as possessing real merit, are, we doubt not, of practical value. We, too, are using some things which we like very much. Gray & Winder's new safe queen cages have given us the greatest satisfaction. Since we last wrote you, we have procured one of their new honey extractors—the No. 1 machine—and having tested it quite thoroughly, we must say that it suits us first-rate. It requires but very little labor to turn it, starting and stopping easily; does its work as thoroughly as any; and by using a simple device which we add, will not injure newly made combs. Moreover, it can be easily cleaned, and when not in use, protected from flies, dust, &c.

The Beebe-feeder, we find to be just the very best thing of the kind we have ever tried; especially is it valuable for stimulating the rearing of brood, and this is the principal use we make of any bee feeder. If we wish to feed and have it stored in the combs, the quickest, easiest and surest method is, we think, to pour the food directly in the combs

And, then, there is one thing that has puzzled many others as well as ourselves, and that is a *good* bee hive. After trying many of the best ones that were patented, we went to work to see if we could not remedy some of the difficulties that lay in our path. We wanted to use but one style or size of frame, but those we used did not suit us. We wanted our frames so arranged that they could not get out of place nor swing and slide about when transporting bees or honey to market. We did not like the space around the frames, nor the facilities given the bees to glue and wax themselves fast. We also found that in order to accomplish the easy and rapid handling of the frames, they must admit of removal without being lifted out of the top of the hive. After having devised a plan that would surmount all these difficulties, we found that "our hive" was subject to the patent of Mr. J. M. Beebe, whose hive was accidently brought to our notice. We have since adopted his improved hive, having modified it to suit our own notions, and now have a hive that is as much ahead of Novice's latest, (we have used hives just like his, except the entrance), as his is better than the old box or gum, at least so we think and many others say.

We have used Novice's honey knife, which answers our purpose the best of any we have tried. No hot water is required. and it does its work well. But we think that Mr. Heller's method will be found much the best.

Dr. Jewell Davis' queen nursery we like very much, as it enables us to keep on hand a supply of extra queens, the value of which is well known.

We wish we could say as much of the fertilizing attachment. Has any one succeeded with it? If so, will they please report.

We cannot agree with Herr Schonfelds's "Theory of Wintering," as translated from the *Bienenzeitung*. His fears of the danger of extremes of heat and cold are, in our climate, groundless. If bees are to be wintered in a cold atmosphere, they must be strong in numbers and kept well ventilated, to prevent the accumulation of frost in the hive. Several years ago, while residing in western New York, one of our neighbors, by way of experiment, set an old box hive, which had a large crack, some three inches wide, extending from top to bottom, upon a bench about two feet from the ground, with the open side exposed to the west, where it received the full benefit of the Hyperborean blasts of Lake Erie; yet it came out in the spring in good condition.

If cold will kill bees, why did not they perish? If bees are wintered in a special repository they must not be too strong in numbers. One quart of young bees is amply sufficient. We agree exactly with Mr. Dadant's views of the "Utility of Drones." Why breed a horde of useless consumers? By rearing them from choice queens in one or two hives only, we will get better stock where queens are fertilized in the open air. Not wishing to weary you, Mr. Editor, with our desultory remarks, we close for the present.

HEBERT A. BURCH.

South Haven, Mich.

[For Wagner's American Bee Journal.]

Uncapping Combs.

MR. EDITOR:—On page 67 of your September number, I see an article on the subject of uncapping honey by heat. As we have made some experiments in this direction, this article determines us to give them now. In June or July, 1871, we tried a plan similar to Mr. Heller's, except that we used a thick knife properly heated, but never could get it to work satisfactorily; the wax would not float in the honey, as it appears to have done for Mr. Heller, but would run and close a large portion of the cells with thick drops of wax. We infer Mr. H. placed his combs in a horizontal position. This would be too inconvenient, besides we do not think anything would be gained over the usual method.

We next tried placing cloth over the face of the comb, applying a heated iron cylinder on the outside of the cloth, lifting the latter as fast as the roller passed over it, the object being for the cloth to absorb the wax as fast as melted, and thus removing the caps adhering to it. This, too, proved unsatisfactory, sometimes producing tearing work. Yet we are not sure if we had no better plan, it might succeed, in careful hands, but we think we have a better. By taking a common tea kettle, containing a small quantity of water, and placing it over a brisk fire until a strong jet of steam was thrown out, then taking a frame by the shoulders, in the same position in which it was placed in the hive, and holding it before the jet, allowing the steam to touch, first, the upper part of the comb, and raising the comb as fast as the wax ran off clear of the cells, we soon found a strip, about 2½ inches wide, from the top of the comb to the bottom, beautifully cleared of cappings, every cell remaining well defined and uninjured; but the wax would form in solid streaks on each side of the uncapped portion, and to apply heat sufficient to remelt it would injure the cells around it, and if we attempted to move the frame from right to left at the same time we lifted it upwards, to keep the wax flowing from above downwards, we found that while the jet was moving over the comb, the wax would cool so rapidly while the frame was being moved, it would be hard before the steam could be applied to it. In short, the jet of steam was not broad enough to keep the entire width of the comb melted at once, and once hardened in thick cords, it could not be again melted without injury to the combs, though we thus uncapped a great many combs by it, in strips from top to bottom, and removing the cords of wax between them with a knife. We finally devised a machine that will, we think, perectly accomplish the object.

Have a cylinder or tube of tin about one and a half inches in diameter, and as long as your frames are. On one side of this have a row of very small holes punched in a straight line from one end to the other and close together; now have the ends of the tube securely closed and a hole one inch in diameter cut out of the under side in the center; this is to receive a small tin tube about one foot long, the other end to be inserted so as to fit tightly into a tin lid made to fit the top of a tea kettle or other suitable vessel, the spout of which (if it has one) must be closed. All being secure and water in our kettle, a brisk fire is all that is needed to give us a broad sheet of steam, extending horizontally, as wide as our frame. We have only to take a frame to be uncapped, place it pretty close to the row of holes in the cylinder, beginning at the top of the frame, slowly raise the frame as fast as the wax melts and flows downward, when the entire capping will run off the bottom of our frame melted wax.

It was too late last season before we devised this implement, and having, this season, to remove our apiary from Mobile to this place, we have had no opportunity to thoroughly test it, but we uncapped so many combs successfully with nothing but our tea kettle, that we feel confident it will succeed under all circumstances.

We had not intended to communicate our discovery until we had thoroughly tested and perfected it, but the communication in your September number has determined us to give it now, lest the hint there given might lead some genius to see the "point," and the Patent Office be besieged for a patent, and *we* only wish we were genius enough to invent *all* the improvements in apiarian fixtures, we feel quite sure that department of the Patent Office would have a long rest.

J. M. WORDEN.

Oxford, Calhoun Co., Alabama.

In order to defend themselves from cold during winter, they crowd about the middle of the hive as near to each other as they can be in the space that is between two combs. There they stir themselves from time to time, without change of place, and this motion excites a warmth that protects them from external cold. The heat is so great by this agitation, that it is communicated to the glass windows of the hive, where it is very sensible to the hand that is applied.

It is probable that they succeed one another by turns in laboring, because they work night and day in the hive, and there is a part of the bees that repose themselves even in the day time. *Virgil on the contrary, following Aristotle, says Omnibus una quies operum labor omnibus unus.* All work together, all together rest.

WILLMAN.

◆

[Translated from Die Honigbiene.

Is there such a thing as mutiny among bees? I gave my neighbor a young swarm. The young queen showed herself to be unusually fruitful, and the stock increased in numbers so rapidly that it was expected shortly to cast off a swarm.

One day there was great excitement in the hive. The bees were running over the glass door, acting as though they had lost their queen, yet at the entrance all was quiet, the bees flying in and out as usual. Such was the message brought me about noon. In the evening I opened the hive and found over half the bees dead, or nearly dead. What had happened here? Did one part of the bees want to swarm, and were they by violence prevented by those unwilling?

◆

[Translated from Die Honigbiene.]

Rheumatism and Bee-stings.

Mrs. ———, had for several years been a suffer from Rheumatism. She could find no remedy, until luckily one day she found a notice in a newspaper that the sting of a bee was an excellent remedy for her complaint. She immediately asked her husband to bring her some bees, that she might try it. This was in winter during a season of more than ordinary cold.

He went to the garden and rapped upon the side of one of his hives until the bees appeared, when he seized a number and brought them to his wife. The sting helped for a time. but at the expiration of eight days the pain returned again, and again stings were applied with temporary relief. This remedy was applied repeatedly during the winter, sometimes two, sometimes three bees being applied at the same time. When spring came both rheumatism and bees were gone, the latter doubtless owing to their being so often disturbed during the winter.

◆

Dysentery.

From Leidfaden zur Bienenzucht.

WM. A. SEMLITSCH.

Dysentery in spring, readily attacks weak swarms, that have had new combs to winter upon, which are much colder than old ones, and which few bees cannot properly warm. Watery or otherwise bad honey is also a fruitful cause of disease. Weak swarms should never be wintered with new combs; the well filled combs are preserved in a dry place, and no honey is purchased unless from a trustworthy beekeeper. Bees sick with dysentery should be fed with pure honey, the soiled combs are cut out, the space of the hive narrowed, and the bees kept warm.

Bees are doing well here. I have over one hundred swarms, and have taken over one hundred pounds apiece from some of them. I like the Journal very much, especially Novice letters.

Yours truly, C. W. STOKES.

Atchinson, Kan., Aug 24, 1872.

◆

[For the American Bee Journal.]

I want to ask Novice some questions about his hive.

1st. In opening the entrance would there not be an opening behind if the bottom was the same size as the hive?

2d. Is there not too much space between the frames and the bottom? Two inches, I think, is too much, for the bees would join the frames with it.

I would like to try your hive, for you have hit on the very plan I was trying to get at, but could not succeed. C. E. WIDENER.

Cumberland, Md., Sept. 7th, 1872.

◆

[For the American Bee Journal.]

Central Illinois.

MR. EDITOR:—I stimulated my bees by feeding early and continuously (as they were weak early in spring) until they grew strong and could find flowers to procure honey from; they increased rapidly in numbers, but the result in honey has been poor. Took less than one barrel of extracted honey, and have but little in box that is capped. The white clover and linden season did not afford the usual amount. I might say they failed in every point up to the present writing. I have plenty of bees, if they had the pasturage to make honey from. The first part of the season was fair, but of late we have had more rain than is useful; nay, I may say so much rain, that all the sweetness so far, is washed out of the flowers. L.

Peoria, Ill., Aug. 16, 1872.

◆

Last fall I had one hundred and ten swarms, mostly in L. L. Langstroth's hives. At the commencement of the present honey season, had but thirty-five; they increased (mostly by artificial swarming) to forty-seven I think I am safe in saying that they have not made four hundred pounds surplus honey. We have plenty of rain.

WILLIAM TROYER.

Anaman, Henry Co. Ill., Aug. 23, 1872.

◆

The season of 1872 has been the worst one for bees in this section of country that I have witnessed since I commenced bee-keeping. Last winter a great number of bees perished; I lost twelve stocks. The honey was gathered in the fall and was rather thin. I suppose that this, in connection with their being confined for a long time in their hives, caused the dysentery; but I am not discouraged, and hope, with the aid of the American Bee Journal, to soon make up my loss. JEREMIAH PICKERING.

Brampton, Ont., Canada.

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[Translated for the American Bee Journal.]

HONEY.

Its Wonderful Healing Qualities.

ITS USE AS AN ARTICLE OF FOOD AND AS A MEDICINE.

By Karl Gatter.

Preface.

It is far more difficult than one would at first suppose, to write a book on honey, and its varied qualities as a source of nourishment and means of remedy for disease, especially when you pass in review before the reader its general use a thousand years ago, its gradual decline, and now its re-appearance. One has thus,

1. To trace the history of honey back to the most ancient times, to find out what were then its various uses and qualities, and what were its prerogatives as a means of food and medicine.
2. To place before the reader the causes through which honey gradually lost its honored place on the table and in the pharmacopœia.
3. To show how, in later times, honey has been gradually restored to its old position, and is again becoming a choice food on the table, as well as a remedy in sickness.

The object of this little work is not to give an extended essay or dissertation on the advantages of honey, but to call the attention of the friendly reader to the advantages and healing virtues of this wonderful product of nature, and to recommend to the beekeepers its rational management; to enlighten the purchaser as to the various means used for adulterating honey, and especially to urge the greater consumption of this health giving product, so that as in earlier times, and as yet among many nations, especially the Polanders, the Russians, and the inhabitants of the Orient, it will become a common article of food, and be found in the larder of every one. Lord Canning, and an honored German chemist, uttered the axiom, that the use of honey and soap was a measure of culture and opulence; to this, Baumgartner adds the industrial use of sulphur; and I add, inform me s to the use of honey by any people or nation, and I will tell you how they stand as regards health and physical strength, since pure, unadulterated honey is for the healthy the simplest, most natural, healthiest and most strengthening food, for the sick their best remedy, and for the convalescent the true balsam of life, to restore their strength and health.

That in writing the history of honey, I should also touch on bee-culture, which is so closely connected with it, lies partly in the very nature of the subject, and partly from my own love of bee-culture.

A strong influence for publishing this book, was the fact that I, a sufferer from hemorrhages, already given up to despair, and at the verge of the grave, was saved by the wonderful curative powers of honey, and now, thank God, I am freed, not only from weakness of my lungs, but rejoice in the possession of perfect health.

At my first attack, upwards of thirty years ago, powders and tea were ordered for me, which benefited me but little. I then placed little confidence in honey, which I used occasionally, and in small quantities. Judging from my present knowledge, I believe that the honey was the only remedy that was doing me any good, and it is this that I have to thank for the gradual, the sure restoration of my health.

As my disease increased, I began to use cod liver oil, which in some measure mitigated my trouble, but at the same time weakened and injured my stomach, so that I could hardly digest anything more, and my condition became worse and worse. Again I returned to honey, when my suffering immediately began to decrease and disappear. Besides the use of honey, I took pains to preserve my breast and lungs from injury, which, in my trying situation as public teacher, was almost impossible. My disease being caused by my constant teaching during so many years. I gave up my profession, and honey as my only medicine, whereby I, by the simplest, safest, quickest and pleasantest manner (for I was fond of honey), relieved the disease in my throat, and out of thankfulness I now write this apology, for the use and benefit of many, especially for the use of those suffering from diseases of the throat and lungs.

I have for many years devoted my closest attention to honey, collected everything relating to it, tested various recommended methods of purifying it, examined the various species of honey, experimented in its application and working, noted carefully the results, and thus developed rich and valuable materials, part of which I present in the following pages. I shall still continue earnestly to press forward in my researches.

So far as my knowledge goes, there is no book yet written, which treats exclusively of honey as a medicine.

I earnestly hope, that through this work, honey may receive its deserved value, be brought into the family, and that its blessed powers will quickly and safely be appreciated.

Should what I write prove of benefit to but but one person, I will feel that I have not written in vain.

Written on this day of the holy St. Ambrosius, the patron of bees.

KARL GATTER.

I.

Honey.—Its History and Uses as an Article of Food and Medicine.

a. HISTORY OF HONEY.

Honey is gathered by the bees from plants, especially the nectar of the plants, and through instinct is sucked up by the bees, and transferred into the cells of the combs. The juice varies in color from white to brown, is of a rather thick consistency, peculiar smell, and sweet taste; is a vegetable animal product, and differs from sugar in its more oily ingredients and its balsamic qualities and virtues.

To most persons, honey is a pleasant food, and to but few is its taste and smell disagreeable, which especially arises from the volatile oily portion(1) derived from the flower and transferred to the cells with the honey by the bees.

Much trouble has been taken by many persons to produce honey by artificial means, and for this purpose have employed the juices of fruits and of various plants, but attempts have resulted in the production of only a sweet substance, possessing neither the taste nor quality of honey; hence the gathering and storing of the beneficent product will remain with the bees. Their honey receptacle is the chemical laboratory in which, under a wise and good Providence, the juices of plants are gathered, purified, and separated from all foreign and impure substances, and then stored in the cells.

Honey thus gathered, is the essence of the blooming young plant world, in the height of its life, gathered from countless aromatic blossoms, and containing that true balsam in it, which with great effect causes the lengthening, rejuvenating and preserving of human life.

Honey, without doubt, was, during the early ages of man's existence on earth, his first source of nourishment. It, therefore, is no cause of wonder, that the producer of this beneficent product of nature—the bee—has been the steady companion of civilization, transplanted by man from the forest to the yard and garden, and become as it were a domestic animal.

Information relative to the bee reaches back to the earliest ages of which we have any history, and the following shows how far in those early ages the study of bee-culture had advanced. Solon, already, six hundred years B. C., enacted a law, that bee hives in the cultivated fields must stand three hundred feet apart; and Homer, Herodotus, Aristotle, Cato, Varro, Virgil, Pliny, Palladius, Cornelius, Celsus, Julius, Hyginius, Columella and others, composed and wrote panegyrics concerning the activity, cleanliness, skill, economy and public spirit of these insects; the beloved bee father, Aristomachus, of Solus, in Sicily, for fifty-eight years unweariedly pursued his apiarian studies, and composed a work on bees; another honored bee master, Hyliscus, called by his cotemporaries "Agios," devoted his whole life to the study and observation of the bees. In Columella's time, about the middle of the last century, bee-culture appears to have reached its highest standard.

Honey was the common and loved food of the ancients, and with many, it and fruit composed their only food. At the table of the Persians, Grecians, and Romans, it was very prominent, and was used in wonderful quantities; not only was most food sweetened and prepared with honey, but most of their drinks were made out of honey, or were sweetened by it.

The Pramnian wine, a sour wine in the neighborhood of Smyrna in Asia Minor, was, when mixed with honey, a favored drink, and was sent to a great distance(2). The fruit was steeped in honey, and placed on the table as a dessert, and eaten either pure or with roasted pappy.

Their esteem for it was very great. Virgil calls it *donum cœleste*—the gift of Heaven. It was the usual food of Pythagoras; Democritus recommends it to all who wish to live long; and Pliny tells of an old man over one hundred years old, named Rumilius Pollio, who enjoyed a marvellous good health and strength. He was presented to the emperor Augustus, who asked him by what means he was able to retain to so great age the liveliness of his spirits and strength of his body. His answer was, *Intus melle, extra oleo;* internally through honey, externally through oil.

The Greeks and Romans brought honey as an offering to their gods, and every animal sacrificed on the altar was sprinkled with honey; it was used for embalming the dead, employed at the funeral sacrifice, and sprinkled over the grave.

Alexander's warriors in the Indian conquest, enjoyed themselves with the honey found there, and the conquered people had to pay as part of their tribute, honey and wax, just as years afterwards the Romans laid tribute on Corsica(1) and Pontus, and at the triumphal celebration honey was distributed to the victors.

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(1) Matter in itself not the least dangerous, except to certain individuals, having a tendency to sourness in the stomach, flatulency or diarrhœa.

(2) Many wines will be pleasanter to the taste when mixed with honey; hence the Grecians even yet prepare their poorer species of wines in this manner, and introduce them to the trade as Malaga and Malvazier.

In the Holy Bible, among the Hebrews, we find honey often mentioned. The wise Sirach counts it with flour and milk, as the chief necessities of life. It is likened to that bread from heaven—manna; was the first food of children, was used for strengthening the weak and weary and formed a large part of the national wealth, which, as an article of commerce, was brought to Tyre—that old and honored trading post of Phœnicia.

Among the gifts taken by the brothers of Joseph to Egypt, is mentioned honey; Sampson's riddle of honey within the ribs of the lion, is well known.

The Israelites showed the wealth of the land of Canaan by declaring that it flowed with milk and honey; and among the first fruits which the Mosaic law commands shall be paid as tribute, is honey. It is said of Jonathan, the son of Saul, that when weak from fighting the Philistines, he went into the woods, and there found honey flowing out of a tree (probably honey of wild bees, and melted by the great heat); into this he dipped the point of his spear, and thus eating it, revived his strength(2).

John the Baptist fed himself in the wilderness on wild honey and locusts; and it was immediately on their arrival, placed before strangers and guests as a sign of welcome.

We find already, with the Israelites, laws regulating the ownership of bees. Thus, we read in Babbabatra-Tosefta: Bees must lie fifteen ells distant from the town, so that no man may be stung; and in Babba Kama, 114 b., 10 Mischra, 2 Rabbi, Ismael, son of R. Jochanan Ben Berokah says: It is the right of every one to go into the field of his neighbor, and cut off a branch of a tree on which a swarm of bees have settled, but they must make compensation for any damage they may cause;—who pours out his wine in order to save the honey of another, must, after the sale of the honey, be compensated for the loss of his wine;—bee swarms belong to the finder, unless the owner claims them;—finally, is the weighty point—"women and children can bear witness as to the direction from which the swarm came;"—for in those times the testimony of women and children had no weight.

During the Middle Ages, Emperor Charles the Fourth, was most favorable to bee-culture, and the two Nuremberger Forests, St. Sebald and St. Laurence, his own and that of the Holy Roman See, were called bee-gardens. The Bee-Masters' Association or guild, paid him annually over 4000 gold florins as bee-tax and tribute, and received from him, in the year 1350, a diploma which regulated their order.

The witness that bee-culture was maintained in Germany for years before the time of Henry IV., we find in German history, during the 12th century, that a tribute was often levied which had to be paid for honey.

During these centuries, the knowledge gathered from by these Bee-Masters' guilds was transmitted orally from father to son. The Bee-Masters' guild of Muskau in Lusatia, owned some 7000 hives; the members, who chose from among themselves judges and deputies, must be skilled beekeepers, and before obtaining the position must have shown the strongest proof that they were well qualified. They held yearly, two meetings, when the President (Zeidelrichter) seated upon a raised platform, and bearing his white staff, pronounced judgment and punished those found guilty according to their few but very strong laws; candidates for membership would also be presented at these meetings, and with shaking of hands promise obedience; strifes would be settled, the guild dues collected, in the beginning in the shape of honey, and later in money.

Laws for the protection of bees are found everywhere among the ancient nations, and especially stringent ones; the old Saxon law was that the theft of a swarm of bees from within an enclosure, should be punished with death, and the payment of nine times its worth should the stock have been in an unenclosed position.

In Moravia and Silesia the Zerotin family did much to elevate bee-culture. Some of their regulations in regard to bees from the years 1581, 1613, and 1630, are still extant, which show that at this time already bee-culture must have been well understood. The then beekeepers had their own police, their own justices, whose members were sworn, a beekeepers' guild, certain privileges, and bee-taxes.

During the glorious reign of Maria Theresa, alongside improvements, bee-culture was not overlooked. Professor Jantscha from Craniola, was called to Vienna as Professor of Bee-culture, had in Angarten, and his successor Manzbery, in Belvidere, an apiary where they gave practical instruction. On the 8th of April, 1775, appeared that worthy patent whereby bee-culture was elevated by the removal of impost on bees, the unhindered utilization of the heaths, as also the removal of all hindrance in the manufacture and sale of honey and wax.

b. THE VARIOUS SPECIES AND QUALITIES OF HONEY.

GOOD HONEY must be sweet, sharp, of a pleasing aromatic taste, clear color, pure, almost transparent, not watery or liquid, but on the other hand not too tough or heavy, and be free from all sediment. Stirred with the finger, it should cling to it like bird lime; being slowly raised it should form long threads, and in dropping it should occupy a small space and cling together and disintegrate.

As to the time of gathering, you have spring, summer, and fall honey, the first of which gathered in May when the flowers are in their fullest strength and blossom, is the best.

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(1) The Island of Corsica had to pay to Rome a yearly tribute of 200,000 pounds of wax, which was about one-half the yield, since in all from 7 to 8 pounds of honey was gathered. Varro mentions a man who rented his apiary at an annual rent of 5000 pounds of honey, and the renter retained 2000 pounds as his pay.

(2) 1 Samuel, 14.

Of all species, virgin honey, that which is stored in pure, freshly-built, white combs, in which no brood has been bred, or pollen stored, which flows of itself from the uncapped cells is the finest and best; the other species, extracted from old combs through heat, pressure, &c., contains, owing to this mode of obtaining it, portions of pollen and other extraneous matters which, in a greater or less degree, give to it a strange taste and a dark color.

Barrel honey is impure, dark, and of an insipid taste, which arises from the fact that the entire contents of the stock, brood, pollen, and other impurities are thrown into the cask and sold.

Owing to difference in countries and situations, to pasturage and degrees of purification, honey differs greatly as to color, taste and smell.

Honey from flowers is mild and pleasant tasted; mountain honey is sharp and aromatic; forest honey is less palatable; buckwheat honey has greater heating qualities, and heath honey has a pitchy and vegetable taste and is the poorest of all.

As to color, honey from Linden blossoms, Eyebright (*Euphrasa Officinalis*), white clover, buckwheat, and Esparsette, is more or less white, the last species having a tendency to red; from rape, chicory, and blue bottle (*Centaurea Ceyamus, L.*) is yellow; buckwheat is red with a greenish tinge, (in summer during great heat, it has a brownish yellow), and from wild buckwheat has a reddish-brown color.

Athea, in Greece, furnishes, from the south side of the hill Hymettus, and Sicily, from the hill and country surrounding Hybla, in which place Thyme scents the air, honey, which, throughout the world is held to be the finest and best. Also the honey from the country surrounding Mantua, the home of Virgil, from Mount Ida, from the shores of the Black Sea, and from the islands of Crete, Cyperus, and Kalydon, were held in high esteem; and even yet, the honey from Spain, and especially from the Grecian Islands, is highly prized, and every year hundreds of quintals are transported to Constantinople, and is of great demand at the Palace of the Sultan. Of most excellent quality is the honey from the Island of Minorca, from Charmouny in Savoy, from Champagne, Narlonne and Montpellier, in southern France, and also that from Portugal. The latter is nearly white, and receives a pleasant aromatic taste from the abundant Rosemary and other sweet-scented flowers, fruits and herbs.

Bohemian honey was noted already in ancient times for its rich aroma and its bright gold color; also in the vicinity of Salzbury and the Alps, the honey has rare value.

Linden honey, if gathered exclusively from the blossoms of the Linden, and thus unmixed with that of any other flower, is esteemed in all lands as the best of all species, owing to pleasant balsamic smell and agreeable taste. Superior honey is also obtained from the aromate plants belonging to the family *Labiatæ* (rosemary, lavender, melissa, sage, penny-royal, phetony, thyme, etc.), also from violets, Primrose, pinks, marigolds, roses, lillies, may-flowers and a great number of trees and shrubs.

Poland, of all European countries, produces the most honey. There are beekeepers there owning 1,000 stocks, and from which they derive upwards of 500 barrels of honey.

c. THE USE OF HONEY AS A FOOD, AS A PRESERVER OF HEALTH AND AS A REMEDY IN SICKNESS.

Honey, as has been already shown, was known and used as the best, most natural and healthiest article of food, can be used in tea and coffee, and as a substitute for sugar in both food and drink.

Honey not only replaces sugar, but in many respects excels it.

If one thinks only on the material from which sugar is made, examine the separation of the foreign substances, such as the process of purifying, etc., I am convinced that this will be sufficient to show that outside of the quality of sweetness there is little to be recommended in sugar, and that honey, that gift of God, far excels it.

Through the use of honey man takes in a most agreeable way both food and medicine, which, with unusual benefit, works into the human system as a preservative against many diseases, and is especially beloved by children; and granting that it has been well purified, can be preserved for years, and in every period of the year be of the same use, and can be thus held as a true medicine chest.

Good, pure, unadulterated honey should therefore always be on hand in every family.

Honey eat upon wheat bread is very beneficial to health.

Children will eat honey-bread sooner than butter-bread; one pound of honey will reach as far, yes farther, than two pounds of butter, and has, besides, the advantage that it is far more healthy and pleasant-tasted, and always remains good, while butter soon becomes rancid and often produces cramp in the stomach, eructations, sourness, yea, even vomiting and diarrhœa.

Well purified honey has the quality of preserving for a long time in a fresh state anything that may be laid in it or mixed with it, and to prevent its corrupting in a far superior manner to sugar; thus many species of fruit may be preserved by being laid in honey, and by this means will obtain a pleasant taste and give to the stomach a healthy tone. One who has once tried it, will never again use sugar in the preserving of his fruits; besides, honey sweetens far more than sugar.

In medicine, and especially in the healing of wounds, was honey, already in early times, used as a universal remedy, constitutes yet the principal ingredient of many medical preparations, is used with the best results in many internal and external diseases; serves as a means for taking powders, for the preparation of salves and the sweetening of medicine.

Honey mollifies; promotes festering; causes gentle purging, divides and dissolves, warms, nourishes, stops pain, strengthens the tone of the stomach, carries away all superfluous moisture, aids digestion, thins and purifies the blood, and animates and strengthens the breast, nerves and lungs. Honey is therefore to be used when suffering with *a cough, hoarseness, stoppage of the lungs, shortness of breath, and especially with the best results, in all affections of the chest.*

Many persons afflicted with various species of consumption, thank the use of good honey, either for their entire restoration to health, or for the mitigation of their often painful condition of body and mind.

Honey is also an excellent remedy for the occasional inactivity of the abdominal organs, and a means of strengthening weak nerves, especially with women.

For severe coughing, barley water mixed with honey and the juice of lemons, drank warm, is a very pleasant relief. It appeases and mitigates fevers, and owing to its taste, and its soothing qualities, it is used as a gargle.

Honey can also be used with advantage in asthma, in constipation, in sore throat; promotes perspiration, lessens phlegm, and is very healing to the chest, sore from coughing.

With old persons, the use of honey is very useful, since it produces warmth and a certain activity of the skin.

For persons leading a sedentary life, and suffering from costiveness, and especially from piles, pure unadulterated honey, either mixed in their drink, used alone, or on bread, is the best and healthiest means of relief.

Honey has also great value as a medicine for children, and is readily partaken of by them in a choice dainty dish. It is especially useful to children afflicted with scrofula or rickets.

In difficult teething, rub the gums with a mixture of honey and an emulsion of quinces.

For the removing of worms, honey has often been beneficially used, and it is often used in diseases of the mouth and throat.

Honey mixed with flour and spread on linen or leather is a simple remedy for bringing to a head, or to maturity, boils, &c. Also, honey mixed with flour or fried onions, serves an excellent purpose as a covering for any hard swelling or callosity or abscess; and for ulcers it is often mixed with turpentine, tar, and tincture of myrrh.

A plaster made of unslaked lime and honey has sometimes relieved most obstinate sciatica.

If good honey is applied to inflamed wounds or boils, it lessens the drawing, quiets the pain and produces a good festering or suppuration; impure honey, on the contrary, irritates the inflamed surface, which will therefore not heal. Undoubtedly, for all wounds, pustulous inflammations, bruises and bad festerings, honey is the best and most reliable remedy, and affords, when it is pure and unadulterated, quicker and safer help than all other known plasters; all that is needed is to spread it rather thick on a piece of linen, place it upon the fresh wound, bind it fast, and renew the plaster every four or five hours. Of course, if bones are broken, surgical aid must be had.

Honey-dough—*arto mele*—a plaster made out of honey and rye flour or rye bread, into which henbane or other narcotic substance is mixed, is an excellent means of irritation, which should be used in festering and bringing the sore to a head, and assuage the drawing and pain.

It should be warmed, spread on a piece of linen and placed upon the sore part.

For convalescents, is good, pure and most refined honey a true balm of life, and is needed by our heroic wounded warriors, whose health has been more or less destroyed, and whose painful disease appears long after their discharge from the army.

For persons who are weakened through debauchery, honey is, of all helps, the best nourishment, since it not only removes the poisons in the system, but also through its virtues strengthens the system, hence it has made itself so necessary to the inhabitants of the Orient.

II.

The reasons why Honey has gradually disappeared from its honored place on the table and in the medicine chest.

When we reflect over the important qualities of honey, and at the same time see how little it is utilized at present, the unwelcome question is presented to us: Why has honey lost in the lapse of ages that value as food and medicine that it once held?

A kind Providence still sends us in abundance this beneficent product, and the bees with the same speed and skill still gather from the flowers the same sweet nectar, and store it in their cells for the blessing and well being of mankind; but man and his surroundings have changed, and herein lies the retrogression of our times, in which honey as a food, and as a medicine, is gradually losing its honored place.

The first blow that honey received was the introduction of sugar. Although the inhabitants of Europe were acquainted with the sugar cane before the crusades, it was not until 1600, that its use became general, and then, as an article of fashion, it was introduced and spread rapidly. Owing to this, honey was less and less used, followed naturally by the decay of bee-culture, and the abolition of the bee-master's guild. The skill and experience of the old practical beekeepers was gradually lost. Amateurs took the place of practical beekeepers, and bee-keeping soon became a sort of play, in which the practical farmer believed he had nothing to do; hence, in many agricultural works of that period, there is nothing on bee-culture. Want of principle, selfishness, fraud and greediness of gain, also often the ignorance of both the bee-keeper and honey-dealer, deluded many, and led others not only to doubt its healing virtues, but to discard its use. I will state some of the causes.

a. In order that honey might have a clearer appearance, and have a greater consistency or weigh more, it was adulterated with starch, millet flour, pea-flour, or chestnut-flour, owing to which, unless it was immediately used, the honey became sour. Alas, then, the poor sufferers that used such a mixture as medicine, and expected a restoration of health therefrom!

b. Lately, here in Vienna, a farmer's wife went about the city asking "who desired to purchase honey?" A careful housewife, closely examining her honey, exclaimed—"This is no honey, but potato syrup." The farmer's wife frankly replied: "Behold, gracious lady, I have sold a great deal of this, but no one discovered that it was not honey; since, however, you have discovered it, I will bring you true honey." That honey is mixed with syrup, has been long known, but that pure syrup should be sold as honey, without the purchasers at once discovering it, one would not think possible, and satisfactorily proves how little this merciful source of nourishment and health is used.

c. Honey has also been mixed with the juice of carrots, which is readily detected by the cloudy, dark color of the honey and its carroty taste.

d. Like all other creatures, the bees are subject to disease, among which foulbrood is the most dangerous and malignant; this disease is also contagious and often destroys whole apiaries. If the disease becomes malignant, it produces a most contagious odor in the hive, and there is no other remedy but to destroy both the hives and bees.

Should the honey of such a stock be mixed with that of others, it will carry the contagious matters with it, and whoever feeds such honey to his bees, will bring this sickness into his own apiary; especially on this account is the honey of Poland, Hungary, Russia and America to be decried, as there all kinds of honey are mixed together in the barrels and sent to market.

With us there are often foulbroody stock, and is mixed by the purchasers or sellers with other honey, and often, for the purpose of obtaining a higher price, is this disease concealed or denied; hence, it is dangerous to purchase honey for feeding.

I advise, in the purchase of honey for feeding, that there be no disputing over a kreuzer, when one is purchasing from a trusted, just, conscientious person; since a cheap purchase, especially when the honey comes from a distance, often results in the ruin of the whole apiary. For ordinary use, some may imagine, such honey is without danger; but who would use the honey of a foulbrood stock? Not I.

e. Beebread is the pollen of the flowers, which the bees gather from the blossoms of plants, mix with some honey, fasten to their hindlegs, and place it in the cells and cover with wax. It decays readily; the instinct of the bee teaches it therefore not only to gather pollen continually from the same species of flowers (which can be readily seen, if we examine the color of the balls of pollen on the legs of the bees), but they seek to prevent, as long as possible, the fermentation, by covering the top of the cells with honey; yea, further, should a cell, with gathered beebread not be filled by the same species of pollen, then some honey is put between the two to protect it from spoiling. In spite of all these precautions, the bee-bread will not remain good longer than the following spring.

What, however, does man do! he preserves often for months, the combs filled with honey and pollen, and then obtains the honey through pressure or heat, whereby much of the sweet material is lost, and is also mixed with various foreign substances, as fermenting pollen, dead brood, dead bees, the rubbish of old cells, the combs mouldy, and perhaps, soiled by the filthy excrements of bees suffering from dysentery, all of which soon develop and spread their damaging qualities, and rob the honey of all its health-giving qualities.

f. "But I," says Mr. B., "have surely not been deceived! To be entirely safe, I purchased my honey from a true-hearted, honest looking farmer, and owner of a number of swarms; and besides, this man assured me that I could nowhere obtain such good honey as his."

O, how often is the admired rural simplicity only a cloak for refined rascality, and many a plain appearing farmer is a worthy follower of Garrick in the art of dissimulation. Would you, dear reader, have believed that this *honest* farmer most shamefully swindled his purchaser, and gave him the poorest kind of honey?

This hypocritical dealer truly had a bee hive; but this was only a decoy, whereby he succeeded in enticing purchasers in selling his mixtures.

He is ignorant of bee-culture, and does not find it to be worth his while to learn, but purchased his needed wants from the cake-bakers, or at the market, wherever he could purchase it cheapest. He pays no attention to its quality, but buys the worst, and often sells the most disgusting stuff to easily deceived purchasers, and laughs over his skill at deception. Also, the honey offered for sale in the streets of Vienna, by women and children, if it even be honey, is the refuse ware of a neighboring cake-baker, which the deceiving country people give out as their own produce, and thereby do a very thriving business.

In speaking of the adulterating of honey, I must mention also the products of the cake-baker, as gingerbread, Westphalian rye-bread, &c., and quote what honored Nestor in bee-culture, Pastor Dettl, says: "To all the products of the cake bakery, necessarily belong honey. The same products form sugar, often only made from sugar syrup, are sweet, often, however, stale, often having a nauseous taste, when not palpable, unhealthy. The pleasant healthy honey aroma is wanting." And this is the more to be regretted, when it is to be remembered that products are so eagerly sought after by the children, who derive no good from them, but on the other hand, they have their health injured by them.

III.

How can Honey regain its sphere of usefulness? How shall it be obtained, purified, preserved, and used?

Above all, it is necessary to understand bee-culture scientifically, and to advance it practically, aided by the perfected knowledge derived from the teachings of anatomy, chemistry, the microscope, and the discoveries resulting from the movable comb hives of that earnest apiarian, Dzierzon. The apiarian has therefore to strive to obtain:

1. Fundamental, theoretical knowledge of the nature, the life and habits of the bee. Baron von Berlepsch, says truly: "Before all, learn the theory, otherwise you will remain practical blunderers all your lives."

2. Rational bee-culture, viz.: a knowledge based on a thorough understanding of the nature and object of handling bees.

3. A skilful separation and selection of the various species of honey as regards their qualities and effects, when it is gathered from the hive.

4. The greatest care in gathering, purifying, and preserving of honey.

5. Conscientiousness as regards the faithful performance of these things.

a. Concerning the obtaining, purifying, and preserving of honey.

Order is the soul of all work, and especially in the manipulation of honey; and not less valuable is purity.(1) Since the mixing of honey with flour, bread, milk, fat, or acids produces fermentation and sourness; hence knives, to which the yeast of bread clings, should not be used by the apiarian.

In harvesting the honey, the combs should be assorted immediately upon their removal from the hive, in the following manner:

No. 1. Virgin honey.

No. 2. Honey in older combs.

No. 3. Combs, containing either bee-bread or dead brood.

No 4. Empty combs.

Each of these species of combs will come into use. From the honey combs, will all cells containing bee-bread or dead brood be cut out, and thrown with the refuse of No. 4.

Now we begin with the honey. Take a large dish, place over it two sticks or a wooden frame, and place upon this a tin or earthen colender, or a sieve of brass wire.

Then take comb No. 1—the virgin honey; remove with a sharp knife the caps of the cells and the comb on the dish, with the uncapped side upon the sieve. When the honey has run out, uncap the opposite side and treat it in the same way. When this is also emptied, the combs can be cut into quite small pieces, and these placed in the sieve to drain.

The cold honey collected in this manner, is not yet in a state fit to be preserved; it should be placed in vessels, and allowed to rest for some days, when it will come to the top, from whence it can easily be removed.

Honey thus obtained is the best, remains good for many years, and should alone be used as a medicine.

Now honey No. 2 is to be extracted in the same manner as No. 1; this species is generally very good.

No. 3 is never used by me, but mixed with the remains of Nos. 1 and 2, and sold to the bakers and distillers, who put it all into one kettle, pour water upon it, evaporate it, and press it out and use it in their manufactures.

When one desires to use the remains of Nos. 1 and 2, and the honey combs of No. 3, place all together in a glazed earthen pot; place this in a larger pot or in a vessel with water, which should be gradually brought to the boiling point. During this time the mass should be stirred with a wooden spoon, until it becomes a homogenous mass. Now take the pot out of the water and let it remain quiet for 24 hours, during which time the wax, &c., will come to the top and harden. Now cut with a knife at the edge of the wax an opening, and allow the honey to run out gradually; let it remain for some days, skim it often, and then place it in vessels.

Honey that has crystallyzed in the cells will, by this means, be liquified.

The pot can also have at its bottom a tap hole, into which a cork or wooden stopper could be inserted, through which, after cutting a hole in the wax for the admission of air, the honey, bright and pure, can be immediately tapped into the vessels or jars in which it is to be kept.

Others render the honey in a simpler manner. They take the combs and mash them to a jelly either with a spoon or with their hands, and place it as may be convenient, in a vessel on the window in the sun, or in a roasting oven somewhat warm (usually, after the cooking is done and the fire checked), or upon the stove, or in the bake oven, after the bread has been removed, and is then managed as before described. I must also add, that the hands must be washed before beginning this work, and the vessels and instruments used for nothing else.

The methods of purifying the honey with chalk, wood, bone charcoal, white of an egg, alum, tanin, milk, oak bark, nitric acid, gall-nuts, thorough filtering, casting red-hot iron into it, adding brandy, thinning with water and afterwards evaporating, removes in some measure the acids contained in it, and the false taste, but also weakens the other worthy qualities of honey, so that honey treated in such a manner is often nothing but a sweet material, devoid of any healing, balsamic qualities. Also by being purified by heat, the honey loses much of its true color, taste, and virtue.

It was so easy for me to prepare and purify my honey, that it was free from all false taste, and was sweet and pleasant tasted; and as this unpleasant taste is often the necessary attribute of this balsamic ambrosia, and by its removal, the healing virtues of honey are more and more lost, one must accustom himself to the taste.

I render and purify my honey upon a quite simple and natural manner, upon the cold plan, without any pressure or force. Since through pressure, heat, or the usual methods of violently emptying the combs, injurious substances are introduced into the honey. I obtain from 100 pounds of sealed honey hardly 60 pounds of pure honey, which is of the best quality, and contains the true balm of life.

The residue I sell to the cake bakers at a very low rate.

In taking the honey out of the vessels, do not use a tin spoon(1) or any metallic substance ; the best is to have wooden spatules and spoons.

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(1) Emperor Charles IV. commands purity when refining honey and wax: Cap. de V., 34.

The honey, when removed from the combs, dare not stand long unprotected, as it will be rendered impure by dust, attacked by mice, moths, mites, flies, ants, and other insects.

To prevent the ants from obtaining access to the honey, cover the place where the honey is with fine wood ashes, and from time to time moisten them, also covering the combs with oiled paper, and tying them with twine steeped in fish oil as a preventive against ants, since they avoid this oil.

The vessels in which the honey is to be preserved must be watched ; tin, iron, and copper vessels, owing to the acid of the honey, and the forming of rust and verdigris, must be well tinned. Far better, therefore, are glass jars or stone vessels, which can be closed by double paper or bladder, in which honey will keep for many years, and although it may candy, it can be readily reduced by a little heat.

You can in these vessels pour over the top wax to the depth of from ½ to ¾ of an inch, which seals it hermetically, and assures its longer preservation.

Sealed honey, in the comb, if all impurities, pollen, and useless wax is removed, can be kept for many years in earth jars.

Honey dare not be kept in moist, damp cellars; must be in cool, well-ventilated places, as it will otherwise obtain an unpleasant taste or become sour. The cold in winter dare not descend below 5° R., for then the cells would burst.

b. Concerning the use or enjoyment of honey.

A known factor in the use of honey, especially as a medicine, is the art and manner of applying it.

Many suppose the quantity used will have the healing and beneficial effect on the human body, but in reality only do themselves injury. As with all other things, so here, too much is injurious. Through the inordinate consumption of this, although the purest of all plant productions, a surfeit and aversion (2) to honey will be produced, which will hinder its healing qualities.

One should use honey in the beginning only in small quantities, one or two teaspoonsful ; the best time, early in the morning immediately upon awakening, and just before going to sleep ; but no rich supper must be eaten.

1st. Should an aversion to honey be perceived, then it should be taken every alternate day ; it may also be used with wheat bread, or with bread and butter, and used instead of sugar in sweetening food and drink.

When one has in this manner become accustomed to honey, he can gradually consume more and more of it, and thus receive the benefit of its wonderful health-giving qualities.

c. The various ways of utilizing honey.

Besides the use of honey as a food and medicine, it is used in various other manners.

From it is made mead, wine, vinegar, beer, brandy, and various kinds of cakes. It is much used in the apothecary, and is the basis of many cosmetics.

In Luthuania it is made into excellent mead, which is allowed to remain quite fully a year before becoming fully ripe. The Linden honey is used for this purpose, owing to its excellent aroma.

Simply by adding yeast to honey you have honey beer, a product almost forgotten in Germany, but still used in Scotland, and very readily drank, and which can be kept fresh and good-tasted for years.

Grafts can be preserved in honey for two months before using.

With the Ancients, especially with the Romans, were all drinks prepared from honey, or mixed with it. I herewith give a few of the receipts.

Water Honey (*hydromeli*), a species of wine drink, made by mixing honey with spring or rain water which has been allowed to stand for a long time. This is often given the sick.

Saltwater Honey (*thalasomelli*), prepared by mixing sea-water, rain water, and honey. This is a pleasant, agreeable, and slightly purgative drink.

Honey Wine (*melititis*), prepared from moist honey and salt, and used as a medicine.

Water Mead (*aqua mulsa*), prepared from long standing rain water and honey ; a strengthening and cooling drink.

Mead (*mulsum*), made from old, pure wine and strained honey—a highly-prized drink, which is spoken of by the hundred years old Runullius Pollio, he declaring it should not be absent from any table, and as being given out when the victories of the warriors were celebrated.

Honey Vinegar (*oxymeli*), prepared from honey, old vinegar, sea salt, and sea water. It is used for medical purposes.

Wine Honey (*onomeli*), a drink prepared by mixing the juice of the best grapes with honey.

CONCERNING FOOD HONEY.

Although bees are very industrious in gathering honey, it often happens that a late swarm, or in poor honey years, that the swarms cannot gather their full winter quota of honey. When this misfortune occurs, it is the duty of the beekeeper to preserve his bees by feeding them with honey until the opening of the next honey harvest. This want of honey may also happen in favorable seasons, by taking from the bees too much honey.

How to feed his bees is well known to every beekeeper, and I shall confine myself entirely to the quality and condition of the honey.

Experience teaches us, that honey, when brought from a distance, even when pure and unadulterated, is not so useful for feeding our bees as that gathered in our immediate neighborhood.

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(1) I have a letter lying before me now, in which the writer states that he this spring lost a fine Italian swarm, in consequence of having fed it with honey taken from a vessel in which a tin spoon was allowed to remain until it had become quite black, and had escaped his attention until too late.

(2) Inordinate consumption of honey will produce burning sensations in the throat, cramp in the stomach, and colic.

Uncapped honey ferments and sours speedily in the combs, and should the bees use much of such honey, they will inevitably suffer from dysentery.

Also the smoke and sulphur used in killing the bees has an injurious effect on the uncapped honey.

But feeding is not only necessary in years poor in honey, but also in those rich in honey. When the yield of honey dew is so great as literally to flow from the fir trees, the eagerness of the bees to gather in their treasure is so great that the extraction of the poison, for the poison bag, is imperfectly accomplished, and hence, in using this honey in winter, dysentery is produced.

Rich honey yielding years are in such situations, the most dangerous, and must, therefore, be helped by feeding the honey produced from flowers.

From what has heretofore been said, we plainly see *how necessary pure honey is for feeding bees, since through impure honey populous hives have been destroyed.*

I have, therefore, every year set apart a portion of good honey gathered from flowers, rendered, as well as in comb, for the purpose of feeding my bees, which the beekeeper can use with the greatest confidence.

SUNDRY MATTERS.

The greatest hindrance in using honey as a medicine, is the difficulty of procuring a pure article.

Honey obtained from the apothecary is generally well purified and well adapted for a sweetening material; but in the refining process, as before mentioned, it has lost more or less of its balsamic qualities, and hence, is less valuable as a medicine.

Had I the good fortune to obtain pure honey, its blessed working is made apparent through the immediate improvement of my health; on the other hand, should I use honey which would be very pure and very sweet, but owing to cause heretofore stated, lacking in a greater or less degree the medicinal qualities, my health would remain in *statuo quo*, or very gradually better itself.

The use of good, unadulterated and properly refined honey is of the greatest importance.

I have pledged myself to confine myself wholly to honey. My free position, the needed knowledge, bee-culture, the handling and separating of honey in relation to its qualities and uses, the experience gathered from various and wonderful cures, would not be gained by any other person with like zeal and perseverance, and placed me in a position to devote my whole time and attention to the study.

In purchasing, honey divides itself into these several species.

1. Breast Honey.—*a.* This is the *purest virgin honey, miel vierge*, taken from such neighborhoods where plants used for strengthening the chest grow, viz: the Alps, Bohemia, &c. This honey is extracted from the combs, placed in glass jars, tightly covered and sealed.

b. For consumption, lung diseases, &c., and to those suffering from piles, refined honey having especial curative properties.

2. Table Honey.—*a.* This species shows itself especially on the table as a sweetmeat, where it occupies the proper place, and is a much sought for, pleasant and agreeable food, since it acts so beneficially upon the health, and especially as an after-dish, aids the digestion. This species of honey can be used as readily in the combs as in glasses.

b. A second species of table honey is that which can be used as a substitute for sugar, in food and drink, is properly gathered and purified, has little of the foreign taste, and is the best for preserving fruits.

3. Food Honey.—This is either in the combs or rendered, and all who are required to feed their bees, should use the best.

I close my writing with the earnest wish that I may have done something toward the spread of the knowledge of the healing qualities of honey, and caused many to turn their attention to it, and through its use either to wholly cure themselves, or at least to alleviate their sufferings, or to strengthen their health, and finally express the heartfelt wish that honey may prove to others so wonderful in its health-giving qualities as it has to me.

FINIS.

Michigan State Beekeepers' Association.

Tuesday's Meeting.

Kalamazoo, *September* 18, 1872.

About 7 o'clock last evening the members of the Beekeepers' Association began to assemble at the court house, and at 7.30 the association was called to order by President Rood, of Wayne.

The president announced that from information he had obtained, it would not be possible for the regular secretary, Mr. A. J. Cook, to be present at this time and assist during the proceedings of the association, and therefore, the first business in order was the election of a secretary *pro tem.*

On motion of A. C. Balch, of Kalamazoo, and on a vote of the members present, Mr. J. W. Porter was duly elected secretary, and proceeded at once to transact the duties of the office. The treasurer of the association submitted a verbal report as to the monetary affairs of the society.

The regular business details for the evening having been gone through with, President Rood delivered an address upon a topic selected by Mr. Cook, the secretary of the society, viz.: "The Progress and the Needs of Apiculture."

GENERAL DISCUSSION.

Some discussion was had in regard to a remark made by Gen Adair, of Kentucky, alluded to by Mr. Rood in his address, that by actual experiment he had been enabled to obtain a pound of comb from a pound of wax. The fact being slightly doubted by some members of the association, the president, Mr. Rood, related in detail what he had heard Gen. Adair say upon the subject, stating that Gen. Adair had demonstrated this matter before the Beekeepers' Association, at Indianapolis, and made no secret of the method employed.

Some general talk was had by different members present, in regard to bees using old comb to make new comb, each member stating some experience of his own in regard to this fact. President Rood stated, as a matter of information to the association, that he had seen a piece of artificial comb which was exhibited at Cleveland last year. That owing to a conflict between rival claimants in regard to the patent for this invention, it has not yet come to any practical good.

Mr. Porter made some remarks on the needs of apiculture. The speaker claimed that there should be more science and practical experiment in the art of bee-culture.

Mr. H. King, an amateur in beekeeping, desired to know if any person present had ever had the experience of the queen bee being killed at the time of swarming.

Mr. A. C. Balch suggested that in such case as that suggested it might have been a strange queen that had been killed, and not one that belonged to the hive.

On motion of the last named gentleman, the association adjourned to meet at 8 A. M., Wednesday.

Wednesday Morning's Session.

The association was called to order by President Rood, and he stated that a paper expected to be read at this morning's session by one of the members of the society had not as yet come to hand, and inquired what was the pleasure of the meeting. On the suggestion of Mr. Porter, Mr. Clement was called upon to give his experience in introducing the queen into the hive. He said: I open the hive and find the black queen as soon as I can, if I want to, I keep her, otherwise I pinch her head, and have the Italian queen ready. Then I smoke the bees, and scent them with peppermint and introduce the queen upon a card of brood comb and then go about my business. I have never lost one queen in a hundred by this method.

Mr. Everard, of Kalamazoo, asked if any member had ever had experience in introducing the queen by Mr. Alley's plan of stupefying them with tobacco. No discussion was elicited upon this query. Mr. A. Balch said that it was easy to introduce the queen during swarming time. Almost any method can be followed successfully.

Mr. Everard gave his experience in regard to fertile workers. They can be readily detected by the egg.

Mr. Clement was able to discover them by the same means. He had also taken a puff-ball, burnt it, and the smoke had the effect to stupefy them; they dropped down and were easily found.

Mr. Balch said he had taken the queen and the drone and held them together, and they had copulated together, and a brood had been produced thereby. Some laughter was produced by the novelty of this experiment. The president asked Mr. Balch if the experiment of the enforced marriage of bees was practical in the hands of ordinary beekeepers?

Mr. Balch replied that he did not think that his hands were more than ordinarily skilful, and thought that it could be made practical. He had never failed in the experiment.

Mr. Porter wondered if this was not the true key to artificial fertilization.

Mr. Clement hoped that this might be more extensively tried.

At this point the secretary read the following communication from J. M. Marvin, of St. Charles, Ill., on the topic of "Queens and Queen-raising:"

> Select each parent stock, with all the requisite conditions, or rear them to it, namely such numbers of the different ages as honey, pollen and watergatherers, and inside workers of wax and nurses.
>
> Drone brood or eggs encourage queen raising. Changing some or all the combs, but the ones having the queen cells on, every three days or oftener, and thus keep the bees employed, so that no poison be given to the keeper or to the atmosphere surrounding the young bees.
>
> Temper. The disposition should be mild; it denotes care in breeding. The stock should be handled with great care, not to arouse their anger, or let them pass beyond control, as it can be increased or diminished, at the will of the keeper, in the parent bees, and more especially in their offspring. The temper depends greatly on the keeper, in good seasons, if not more so than in poor ones, as they are apt to do more storing than is good for the breeding stock. At such times, if left to themselves, they generally renew their queens, and being full of stores, and nothing to do but defend their honey, a bad temper is increased.
>
> Prolificness. This is a quality much desired, but is not utilized as yet, only to a limited extent. Some few abnormal cases are not prolific enough to keep up the strength of the stock, or suit the wants of the keeper; such queens may be removed, and a more prolific one substituted. By drawing combs of brood and eggs from a queen, it increases her energy and usefulness, if not carried too far.
>
> Color. This is also at the control of the keeper. We will not enter in discussion as to whether light or dark bees are the purest, but a colony of light colored bees, that rival the sunshine, are things of beauty, and in my judgment detract nothing from longevity or usefulness, but otherwise are the more easily seen and handled than those resembling old comb in color.

Some remarks were made upon statements in the letters of Mr. Marvin by President Rood, C. I. Balch, Mr. Porter, and others.

Mr. King wanted the thoughts of others on how to make bees build straight combs.

Mr. Balch asked Mr. King what hive he used. Mr. King replied that he used the hive spoken of by Mr. Quinby in his work on bees.

Mr. Balch thought that Mr. King's difficulty might arise from not having the hive stand straight.

A sort of "experience meeting" talk was then indulged in by the members present on various topics relative to bee-culture, Mr. Bingham, of

Allegan, speaking at length on his experience in queen raising.

Succeeding this the association dissolved until 7.30 P. M.

Wednesday Evening Meeting.

Kalamazoo, *September* 9, 1872.

At the Bee-keepers' Convention this evening the secretary announced the subject of the evening's meeting for discussion to be "The Mortality among Bees during the Winter of 1871."

DYSENTERY IN BEES.

Before the discussion began, Mr. J. W. Porter, the secretary, read a letter upon this topic from Dr. G. Bohrer, of Alexandria, Ind., a copy of which we herewith print:

To the officers and members of the State Beekeepers Association.

Gentlemen:—At the request of your secretary I would submit the following, in regard to the prevalance of dysentery among bees during the past winter. The general causes giving rise to this affection among bees are sufficiently well understood by a large majority of apiarians, to render it unnecessary for me to give a description of them at this time, farther than to mention them in detail, if required, in demonstrating ordinary causes from which this malady are known to spring, had but little if anything to do with its origin among bees during the past winter in the United States and Canada; for it is well known that thousands of colonies, populous in numbers, well supplied with honey and in good winter quarters, perished despite every effort that could be brought to bear by the most experienced, most skilful and most industrious beekeepers of the country.

I am fully aware that it has been asserted by some that the recent great mortality among bees was due to the carelessness on the part of the beekeeper in not putting them into winter quarters at the proper season and in a proper manner. But inasmuch as I have conversed and corresponded with many relative to this matter, who have formerly been not only very attentive to the wants of their bees, but had also been eminently successful in wintering them, I think I have good grounds furnished me for concluding that such statements are (to use a new expression) simply too thin. Others have been disposed to attribute it to the extraordinary severity of the winter; but when we come to consider that the mercury often sinks lower in Canada than it did in this part of Indiana during last winter, and that bees nevertheless winter well even on the summer stand in that country, without any other protection than that furnished by the hive, we are at once lost in attempting to account for the late ravage of this disease in this way, as bees perished here, and even as far south as Tennessee, in large numbers. True, the apiaries in southern districts were not as nearly depopulated as they were here and in other districts of the North. But the inhabitants of each colony were reduced in numbers much below what they commonly have been, thus proving two things, first, that there was from some cause more than ordinary predisposition to dysentery, this being the universal complaint; and, secondly, that owing to the frequent opportunities afforded bees in Southern climates of flying out and discharging their excrement, this malady proved less fatal there than it did in sections where the excessive cold weather confined them to the hive for periods of time altogether beyond what they could endure in a diseased condition. From this standpoint it will be seen that cold weather had but one effect, which was that of rendering dysentery more fatal by confining the bees to the hive.

It will be out of the question to attribute the origin of this disease to an excess of atmospheric moisture, as it never was known to be dryer than it was last winter throughout the United States. Neither can we come out and occupy the ground that bees were put up into winter quarters without a proper amount of ventilation, for in this particular they fared as usual. But after searching in every quarter for the cause, I find nothing more than has heretofore been common until I came to examine the honey, which last fall presented no external evidence of its unfitness for bees to winter upon successfully. But as the time progressed a portion of it granulated and left a watery substance which run out of the cells, and down upon the bottom board, where it soured in many instances. Just what kind of honey it was I am not fully prepared to say, but as there were no flowers from which bees could collect honey last winter in one section, I suppose it to be honey dew they were collecting, as they came in heavily loaded every day for a week or more, yet I did not take it upon myself to search for this substance in the forests, and may have been mistaken, but don't think I was. After I saw it in the condition above described, I almost concluded that it was collected from grapes, but as there were not enough grapes in our parts to furnish so much honey, I fell back to honey dew. I have made inquiry of several persons who claimed to be acquainted with this substance, and find them laboring under the impression that bees will not winter well when confined to this material as food. I have also learned that honey dew last season was quite common in all sections where dysentery prevailed as an epidemic. If this information be correct, I think we have found out the true cause of this disease as prevailed last winter, and would therefore recommend to beekeepers the custom of emptying their combs with the extractor in September, and feeding sugar syrup in all cases where it is known that the hive is stored with honey dew. It will, however, be advisable to make haste slowly by ascertaining, as we go along, whether or not my conjectures are really correct as to honey dew being unfit for bees to subsist on over winter. A few colonies out of a large number set aside will be sufficient to test the matter in any one apiary. G. Bohrer.

Alexandria, Madison County, Indiana.

DISCUSSION OF THE TOPIC.

Mr. Bingham, of Allegan, stated that he had found dead bees about his hives during the last winter. The honey produced by these bees was red and not of the best quality. This gentleman gave it as his opinion that it was owing to the severity of the winter that many of his bees came to die. By using great care he managed to save twenty-nine queens and bees enough to care for them.

President Rood stated that Prof. Cook wrote him during this mortality of bees asking what he should do to prevent their death. Mr. Rood stated that he advised Prof. Cook to scald the honey and thus free it from acidity. The remedy failed of effect.

Mr. Heddon, of Dowagiac, stated his experience in regard to the mortality of his bees during last winter. Mr. Heddon thinks the cause of death among them was old age. There was no sign of dysentery among his bees.

Mr. Bingham did not think that Mr. Heddon's theory in regard to the death of bees last winter was correct.

Mr. Everard, of Kalamazoo, stated that he had wintered the most of his bees successfully. Those that got fresh, pure air came out all right. Those that were kept low down in the cellar died largely. He attributed the death of his bees to want of pure ventilation.

William Campbell, of Royal Oak, said that he had bees die last winter of dysentery. Some old bees died in the comb. One cause of the death of bees was in his opinion the poor quality of the honey.

Mr. Porter read an article contributed by him to the Michigan Farmer, May 23d last, on this subject. He said he had reason to change his opinion in regard to some points in the article since writing the same; that the article did not fully express his present opinion on this important topic; but, in the main did. From some inquiries propounded to Mr. Porter he was led off into a long explanatory talk about the aphides, or plant lice, and as to their secreting honey dew, which the speaker said they did.

Mr. A. C. Balch, of Kalamazoo, stated that his experience was that bees did not want much ventilation. Last winter he lost only one swarm of bees. The cellar where they were kept was nearly air-tight.

Mr. Bingham asked Mr. Porter if the honey of Prof. Cook's apiary, of the Agricultural College, last fall, was of the ordinary color.

Mr. Porter responded in the affirmative, and that the honey was unusually good and was used in the college.

Mr. Balch said he did not believe that Mr. Heddon could give his bees dysentery by drumming.

Mr. Knapp asked Mr. Porter if he had seen bees gathering the honey dew, and received an affirmative reply.

Mr. Bingham wanted to know of Mr. Rood if he thought that scalding the honey would prevent the mortality. Mr. Rood responded in the negative.

Mr. Heddon, of Dowagiac, made some further remarks on the mortality question, stating his own practical experience on the subject.

Considerable discussion was indulged in by members of the association on the "old age" theory of Mr. Heddon, and upon various topics remote from the subject under discussion.

CLOSING SESSION.

At the session, Thursday morning, the Secretary read the following interesting letter from E. Gallup, of Orchard, Iowa, on the subject of "Hives."

The Hive Question.

By E. Gallup.

This is a knotty question to many a beginner in beekeeping, and, in fact, it is not yet solved by many an old experienced beekeeper. It is a well known fact, that a natural swarm of bees will build comb, raise brood, store honey, and carry on their labors without any hive whatever during the entire summer. But in this case there is a constant guard or crust of bees surrounding the brood nest at all times and on all sides. During a storm this crust or guard is made very thick on the windward side. Now, in constructing a hive with this knowledge, we make the hive or the material out of which the hive is made, answer in place of this guard or crust of bees, thus allowing all this force to become outside laborers.

With the above facts in view, we formerly held that a compact hive of about 2000 cubic inches, with a further chance of contracting the size of the hive by the use of a movable division board, was the only real, practical hive that could be used; but when we came to use the extractor, we soon found that this room was all needed for brood; we now wanted hives of double the above capacity. The old plan of top boxes suggested a two-story hive, but this form of hive kept too many crust or guard bees at home, especially if the weather was a little cool. To make this perfectly plain, so as to be understood, suppose we use a hive two feet square and two feet high. We have a good strong stock of bees in this hive; it is filled with combs. The brood nest or comb containing the brood, is at the bottom, spread out horizontally, and 8 or 10 inches in height. (We do not wish to be understood as saying that it is always in this form, but simply for illustration.) Now, this brood nest is in the centre, consequently does not come near or approach the sides or top of the hive, and the consequence is, a constant guard or crust of bees has to be kept clustered around the brood nest on all sides, unless the weather is very warm, the same as there would have to be if this brood nest was suspended to a pole in the open air; that is, to a certain extent the above answers for an illustration. Now, if we can make a hive of the same capacity, but in a different form, so that the sides and top of the hive forms a crust around the brood nest, we have liberated so many of the bees that form this crust or guard, and the consequence is, more of the bees can go out as honey gatherers or water carriers, &c. To further illustrate this, we take the two-story hive or any tall hive filled with comb, with the brood nest in the lower apartment. In the heat of the day the bees occupy all parts of the hive, but at night, or on cool days, and especially mornings, there is a large, compact mass or crust of bees clustered just above the brood, in order to retain the necessary warmth below too, or for the development of the brood. Hence the reluctance in many cases and in many seasons, of bees taking possession of top boxes. They may, and frequently do, take possession in the heat of the day, but the nights are cool, or a change in the weather compels them to go below to protect their brood. But, says the advocate of the two-story hive, we compel the bees to take possession of the upper story, by placing a part of the brood in the upper story; yes, but at the same time you compel more bees to stay at home if the weather is somewhat cool, in order to guard this brood, thus losing their labors as outside workers. All will allow that a single-story hive is best in spring and fall. Now, if this is so, why not best at all times?

With our understanding of this matter, and that too without any prejudice or preconceived notions, we have become thoroughly convinced that a horizontal hive of some form *is* the best at all times, and if so, what form is the very best?

We have been experimenting, the past season, with two forms, and we are not yet prepared to render a judgment, which of the two is best. One is our large twin hive, and the other is the Adair form or New-Idea hive, containing the same combs or frames. We think that all will allow, that in a large yield of honey, we must have a large hive, and I have found that in such a hive, both the twin and the New-Idea form, swarming is entirely prevented (that is, with proper management). The queen breeds more abundantly, and the stocks being larger, she breeds later in the fall, and consequently we have a larger amount of young bees to go through the winter. The late gathered honey is always better evaporated in a large stock than in a small one, unless the small one is condensed into a small compass. Also by a large horizontal hive, we always have a strong stock on hand to take advantage of the honey harvest when it does come. For illustration, the past spring in one large hive we had, when spring opened, at least 100 lbs. of surplus honey over and above what the bees had consumed during the winter; the weather continued unfavorable up to the first of July; no honey gathered at all, yet this stock had no fears of a famine, and kept on breeding, so that when the harvest did come they were in condition to store 160 lbs. in just eight days.

Now, providing they had all this honey taken away, and just given them enough to last from day to day of sealed honey, no such amount of brood would have been raised, and by the best of stimulating we could have done no better. In fact, in or with large hives our stocks are always in condition to take advantage of the harvest when it does come. The surplus left over can always be taken away when the harvest comes, whether that harvest comes early or late. With large hives and Italians, we have a perpetual stock, as they are sure to raise a new queen before the old one fails.

Mr. Bingham said that bees cannot be taught anything, and that they lacked brains. He thought that the idea of attributing reason to bees, as in Mr. Gallup's letter, was an erroneous idea.

Mr. Heddon thought that the condition of the interior of the hive was of the greatest importance. He said he used the Langstroth hive, and used his own frames in the upper section of the hive. Said he would like to receive the suggestion of any member as to a sure method of evaporating honey.

Mr. Bingham said that he had more honey gathered by a small nucleii than by a large swarm. Said it was more trouble to care for a large number of bees than a small number. The gentleman had much to say upon the relative merits of the Metcalf, Adair, and Gallup hives. He did not believe there was any practical use in raising bees after July 10th, in any year.

Mr. Heddon said that he believed that the beekeeper needed a hive adapted to extricating liquid or surplus honey.

Mr. Bingham said that he had 900 superficial inches of comb in his hives.

Mr. Langstroth's hives have 1,400 superficial inches of comb.

Mr. Heddon asked if the convention thought a queen could lay 3,000 eggs in 24 hours?

Mr. Rood said that Mr. Otis had found that a queen had laid 3,500 eggs in a single day.

Mr. A. C. Balch argued that the small hive is best; that there is room enough for cells. He believed the true policy for "slinging" was to place the frames upon the top of the hive rather than at the side.

At this point a suggestion was made that the association close up the business of the assembly, and in accordance with the above suggestion, Mr. A. C. Balch moved that a paper now on hand from "Novice" should be read, and that the election of officers for the ensuing year should follow such reading; the motion was supported, put by the president, and prevailed.

The secretary read the following communication of A. I Root, of Medina, Ohio ("Novice"), on "The Apiary and its Arrangements :"

The Apiary and its Arrangements.

To the President and Brother Beekeepers' of the Michigan Beekeepers' Association :

Years ago I remember to have heard a little fable, something in this wise : Once upon a time, in a certain garden, one of the shrubs was complaining in a dissatisfied way that it was neither tall and stately like the oak, nor fragrant like the rose, and, in short, that it was of no use in any way and did not see why it had been planted at all. To this a sprightly little Hearts Ease replied, nodding and smiling, that since the owner of the garden had seen fit to have *it* planted there, he probably wanted a Hearts Ease and nothing else in that very spot, and that it was determined accordingly to be the very best little Hearts Ease *that ever it could be.*

As the Association has seen fit to call for something from "Novice," we presume, of course, that they knew what they might expect, and so I have determined without further apology to give what aid I can to the bee-keeping world.

The amount of profit to be derived from our bees is in direct proportion to the amount of care we give them, and so many sad instances have I witnessed of disorder and neglect in the apiary, and even ofttimes in the apiaries of prominent and intelligent beekeepers, that I hope you will excuse me if I seem extravagant in what I advise.

To those who have, or contemplate having, one hive of bees or more, I would say, first, secure a clear spot of ground, gently sloping towards the south and east, and protected from the winds on the north and west by buildings or trees. When this plot is levelled off, no vegetation, not even a spear of grass an inch in height should be allowed to grow; in fact, we expect you to walk around your hives often enough to keep the soil hard and to prevent grass growing there.

When weeds appear, cut them off with a hoe, and bank up immediately around the hives with sawdust, and keep all litter and trash swept up so clean, that if a queen escapes from a hive, she cannot even find a place to hide or get lost.

The whole should be surrounded with a good fence, if possible, eight feet high, and tight on the north and west and close enough all around to perfectly exclude poultry, cats and dogs, and even children when they are inclined to be disorderly. (My "better half" here objected to that last item, and claims that "children are never disorderly when their mammas have the care of them, and that this 'fenced up' idea, when 'order reigns supreme,' with only men inside, is purely visionary, as every woman knows ;" but, bless their hearts, I never meant to keep them out.)

In short, the ground should be sufficiently clean so that we can, at any time when weary, go down upon our knees beside a hive, and examine its contents at ease.

For shade, we would recommend the Concord grape vine, trained on such trellis as is described in "Fuller on the Grape." If the trellises run east and west, and are about eight feet apart, the hives can be placed on the north side, close to the trellis, and about six feet from each other.

The vines unfold their leaves just about the time when shade is needed, and the leaves fall as soon in autumn as all the sun is needed again.

Before speaking of hives, excuse me if I again insist that no old broken hives or frames, no blocks, sticks, stones, or rubbish, shall be tolerated inside the enclosure at all; not even an unused queen cell shall be thrown on the ground, but all shall be kept like a tidy place of business, as we expect you to make this.

If you can stand it, please have but one kind of hive, and you will escape many perplexities.

The hive we approve of is so fully described in the *American Bee Journal*, for September, that we do not think best to take space for it here, more than to say, that both upper and lower story are one and the same, and the same with top and bottom.

The hive has but two parts, viz., body, cover or bottom, and these are so simple that any mechanic should be able to make them accurately to measure, so that any one fits anywhere, and the hives are all so precisely alike that neither the bees nor their owners know one from another except by locality.

If you wish to make the best per cent. on capital invested in this apiary, take our advice, and use the Extractor alone, and don't patter with boxes and comb honey, unless it is to test the matter yourself, and a very few experiments will be enough to convince you that selling the comb as soon as built, is as poor policy almost as keeping common bees in old-fashioned box-hives.

Again, make, or have made, an extractor just large enough to take in the frame you use, and have only the *frame* that carries the comb revolve, and not the whole can. A very short time will show any one the great amount of strength that is wasted in revolving at a high speed the can, honey and all.

There need be no argument on a matter when actual experiment is easily available, and the same will apply to box and extracted honey. Extracted honey is now quoted at from 16 to 20 cents in New York, and we believe a ready market is at last obtained for all that can be produced.

Make it a study in arranging the Extractor and all implements, to save all useless steps and to save all lifting and daubing utensils uselessly. Have the Extractor deliver the honey directly into the barrels, ready strained, and have your barrels tight and well waxed inside.

We have not space here to describe the house for wintering, located in the centre of the apiary, but will add that it is used as a honey house in the summer, it should be neatly and tastefully arranged, and so that everything may be kept scrupulously clean. In fact, we *must have* the ladies' assistance in this department for aught I see.

Are there many here that still feel that *wintering* is the great unsolved problem and cannot with us feel sure that so simple a thing as pure sugar syrup is all that is needed to prevent the dreaded disastrous repetition of last winter?

Well, wait and see, as ample experiments will decide the matter, I think, this coming winter, and those who prefer to act rather than wait, I most earnestly advise to get their feeding done and have the syrup sealed up during warm weather. With a quart of bees, and plenty of pure wholesome food (A coffee sugar we know, for instance, is pure), and a frost-proof house to winter in, I think a colony of bees is much less liable to be lost than farm stock generally, and, in regard to ventilation, I really do not think it worth troubling about if food be proper; that is, I would leave the same ventilation that they had in summer time and nothing more. Echo answers

"Nothing more," from

NOVICE.

Mr. Bingham thought there were some practical thoughts in "Novice's" letter. He thought chickens did no harm, as it was his experience that they killed miller moths. We have a right to be thankful to "Novice" in regard to his efforts in developing the art of "slinging" honey, and believe his plan of feeding bees to be a good one; it is feeding from the bottom of the hive.

Several other topics were discussed which were of interest to the members present, but of such a general nature they could not be properly reported.

ELECTION OF OFFICERS.

On motion of A. C. Balch, the convention proceeded to ballot for president of the association. President Rood made a few remarks thanking the association for the honor they had conferred upon him in the past, and declining to again hold the office.

The following named persons were elected as officers of the association for the ensuing year:

President—T. F. Bingham, Allegan.
Vice-President—A. C. Balch, Kalamazoo.
Secretary—J. W. Porter, Ogden, Lenawee county.
Treasurer—H. A. Burch, South Haven.

Secretary Porter drew up the following resolution, and on motion of Mr. Heddon, the association adopted it:

To the Honorable Legislature of the State of Michigan:

Whereas, During the past year and previous years, the people of the State of Michigan have lost thousands of dollars from the ravages of insects upon fruits and grains; and

Whereas, Bee-keeping has become a prominent and growing pursuit in the States, and deserves the attention of scientific men; and,

Whereas, We, the Michigan Bee keepers' Association, believe it to be to the interests of the State at large, in promoting the interests in industrial pursuits, to have a State Entomologist, who shall make it his business to investigate and look after such interests:

Therefore Resolved, That we, the Michigan Bee-keepers' Association, do hereby petition the honorable Legislature to take under consideration the propriety of creating such an office, and we do unanimously recommend the same.

T. F. BINGHAM, President.
J. W. PORTER, Secretary.

Mr. Bingham was conducted to the chair and made some very sensible remarks, thanking the association for the honor conferred, and proceeded at once to the conduct of business.

Mr. Heddon, on request, made a statistical report on his bee-keeping, the amount of honey obtained, number of swarms, etc.

On motion of Mr. Ira Green, of Lapeer, a vote of thanks was given by the association to the gentlemen who have furnished papers for the edification of this association; and to Ezra Rood, late the acting officer of this meeting, for the able manner in which he has performed the duties of his office.

The association then adjourned to meet at the time and place of holding the next annual State Fair.

EDITOR AMERICAN BEE JOURNAL:—These communications were received after the meeting had adjourned *sine die*. Respectfully,

J. W. PORTER, *Secretary*.

On the Causes of Mortality among Bees in 1872.

Mr. Chairman, and members of the Michigan Bee-Keepers' Association:

When I accepted the invitation of your Secretary, Mr. Cook, to prepare a paper upon some topic in apiculture, I had but little doubt of being able to be present, and reading the same in person; but the duties of my calling direct me to Grand Rapids, instead of your favored spot of meeting, the village of shade and beauty, the bright Kalamazoo.

No subject in bee-keeping is so significant to the members of this association as the successful wintering of bees. This accomplished, and nothing will prevent the multiplication of swarms, until the tons of wasting sweets, now lost in the cells of the Flora of our State, will be gathered up to sweeten and gladden the life of man.

Each winter seems to develop some new danger, or challenge the experience of all that have preceded it; but the winter of 1871 and '72 stands unrivalled, and it would be hard to estimate in dollars the actual loss sustained by the beekeepers of our State. From every quarter, last spring, came the lamentation, "My pets are dead, and why did they die?" I am not self-conceited enough to assume that I can tell all the reasons "why," as they were undoubtedly different in different localities. In some, the rain-fall was much more in quantity than others, and more timely, and the pasturage was different and differently affected by it. All these need to be considered with great care in arriving at conclusions. No one can cover the whole country unless he be as ubiquitous as Hamlet's ghost. I speak therefore from my standpoint of observation in the beautiful orchards of Benton Harbor. The loss of stocks in this region, in my judgment, resulted from the following causes: 1st. The age of the bees composing the swarms in the fall. 2d. Improper ventilation, and 3d. Prolonged and intense cold. These three causes deserve to be noticed separately, with such suggestions as to prevention as the case demands. Of the three, the first is, in my estimation, the principal; although I would not underrate the others. In the spring of 1871, all stocks of bees in this section were strong and vigorous. On the 10th of May, nearly all the hives were full of active workers; and when our apple, peach, cherry, and pear orchards brought forth their profusion of blossoms, the little "sweet loving" workers revelled in a perfect banquet of nectar and pollen. This over, and warm showers succeeded, and, with their enticing drops, soon coaxed the raspberry and blackberry to robe themselves in sheets of white and amber; and now our little industrious fellows were crazy with delight; they rollicked, and rolled, and rambled from early dawn until dewy eve, gathering honey and pollen, crowding every empty cell, and, in some instances, digging out the embryo drones, that they might have room to store their precious sweets. No sooner did a young bee emerge from the cell, than it was filled with honey by the overloaded workers standing by. This was continued throughout the season as the honey product was very great. The queen was narrowed down to a little space in which to deposit her eggs, and when winter came, with its long bitter cold, it found a hive nearly full of *old bees*, which would naturally die by the first of January or February. This they did, gradually dropping from the cluster until only a few bees were left. Few in number, they clustered closer and closer together, gorging themselves with honey to sustain life, which in some instances succeeded, only to die by debility when the warm breath of spring came to give them relief. Unable to generate animal heat, no brood was reared at the proper time to keep up the waste, and they must die. The above is based upon facts which are patent in my own experience, but I will mention only one as connected with the winter of '71 and '72. In July of '71 a vigorous swarm lost their queen, and for some reason failed to rear one. I neglected it, and did not observe its condition until the 15th of August. Some days after I secured a very fine Italian queen and gave her to the little bunch of motherless, despondent workers. She proved a very fertile hybrid, and soon there was heard the hum of joy among them. Until the setting in of winter the combs were full of brood. *From the hive not one pint* of dead bees were taken in the spring. On the 9th of June they swarmed. The remedy, therefore, for all the above difficulty is very simple: 1st. Use the Honey Extractor judiciously, so that the queen may have room for her larva. 2d. Divide in the fall, after Mr. Hosmer's plan, and keep them rearing brood all winter. 3d. Take away the queen and a small number of bees, after the honey harvest is past, and compel them to rear a young one, or return the old as you see fit, about the middle of September. The second cause—that of improper ventilation—unquestionably resulted in the death of very many which would not have died from the first I have mentioned. The indifference with which this is treated cannot be too severely condemned. Very many in this day of advancement in bee-culture, still cling to the old box, or gum, and no argument can drive them from their use. Their fathers kept bees so and why should not they? They are as perverse as the Dutchman who would carry a stone in one end of the bag and wheat in the other. Now, talk to them about ventilation, and they will insist that the *instinct* of the bee is the only safe guide. And do they not stop every crack and crevice in the top of the hive or gum with propolis? Yes, and often kill the whole swarm by it; just as they build by instinct the honeyed dome around them, and die for the want of room in which to rear their young. There must be absorbents placed in the top of the hive, to take up the moisture, or else a form of ventilation that will allow it to pass off. A failure to do this will envelope the whole swarm in the colder days of winter in a crystal cave whose walls are ice and frost. If the cold is intense and prolonged, the ice will gather around the entrance until air is excluded, and then they perish soon with suffocation or sweating. Out of thirteen hives wintered on their summer stands with dry corn cobs for absorbents placed over the frames, only one died. All the rest came through in fine condition. Many a farmer who joins bee-keeping (not bee-culture) with his other labors, will persistently neglect this matter of ventilation under the plea "of want of time," but will spend double the amount necessary nursing a little scab-nosed sheep. "Penny wise and pound foolish." But I must consider the last: Prolonged, and intense cold. Bees were confined in this vicinity from the 20th of October until the later days of March. During a large portion of this time the thermometer ranged from 8 degrees above to 12 degrees below zero. This, with the sudden changes which frequently occurred, produced great sweating and frosting of the combs. All the uncapped honey drew moisture, became thin and watery, and unwholesome; that which was capped and well preserved was so covered with frost that it was beyond their reach, and they were forced to eat the thin, watery food produced by this condition of things. Is it a wonder they died? I know of no remedy for all this except well-built houses for wintering purposes, and throwing out the uncapped honey with the Extractor in the fall.

J. G. PORTMAN.

Benton Harbor, Michigan.

What is the Cause of the great Mortality among the Bees?

It is well understood among beekeepers, that the above is the great question just now; and yet, in my humble opinion, none have been able to answer it; neither am I prepared to do so. I purpose, however, to show that the theories put forth as to the disease and the cause, will not stand the test of careful examination. I have received many letters asking for papers on the subject, but to one and all, I have replied that I was not prepared to say anything about it, until full reports were received from all the affected districts, both in Canada and in the United States. These reports are now before me, and after careful examination, I have arrived at the above conclusion—that no one has or can answer the question at present.

That bees have died during the past winter and this spring up till the present time throughout the greater part of Canada and the United States, is a fact that nearly every beekeeper can attest. So fearful has been the disease, that in some large districts every bee has died, and that, too, under the most favorable conditions. Large apiaries of seventy-five and a hundred stocks have entirely perished. The like has never before been known. After careful examination of all the reports, I am fully convinced that bees have suffered from some epidemic or fearful disease unknown to apiculturists, which is causing far greater mortality than that so much dreaded disease, "foul brood."

For the last four years there have been complaints of a great mortality among the bees in certain districts in the United States. In Canada, too, we have noted the same, but not to so great an extent; yet it has been increasing every season, and last season in many sections nine-tenths of the bees died. What can be the cause of this great mortality? Mrs. Tupper, a noted beekeeper of Iowa, says in answer to the question, "that bees have died of too much honey," which she accounts for in this way: The honey harvest was very abundant last fall, and the bees gathering largely, all the breeding cells were filled up; the consequence was, that breeding ceased; hence, all the bees that went into winter quarters were old bees which have gradually died, and, before it was time for breeding to commence this spring to any extent, the stock became so depopulated, that breeding was not induced, and the stocks perished.

Now, it may have been the case, and doubtless was, in the vicinity where Mrs. Tupper resides, that bees gathered largely late in the fall, but in other localities such was not the case, and still the bees died, hence that cannot be the cause. Another claims that it is the result of introducing Italian bees; but it so happens that all the hybrid stocks are the last to die, and not only so, but in sections where no Italians have been introduced, the native or common bees have died fearfully. Another writer for the *National Bee Journal* says, that the honey gathered in the fall was thin and watery, much of which was not capped over; this soured, and being used for food by the bees, produced the disease; but unfortunately for him, in Canada, especially in this section, there was no thin honey gathered in the fall, and all honey was capped over, yet nine-tenths of the bees are dead, and still dying. Several other writers claim that it is for want of bee bread; that they failed to gather in a supply; yet there is no reason why they should not have gathered just as much bee bread last season as in any other season; for, surely, last season was not so unlike all other seasons in the past, that bees should have failed to gather sufficient bee bread, which they never could have failed to do before; for if they had, the mortality would have been the same as now; but the truth is, bees have died with plenty of bee bread and honey. Others, again, argue that the winter has been unusually severe; but we know that it has not been more severe than many winters in the past when there was no such mortality among bees; not only so, but the reports show that bees wintered in good dry cellars have died equally with those wintered on their summer stands. Others, again, say that from some cause the queens ceased breeding early in the season, and consequently stocks became depopulated, until not enough of bees were left to keep up sufficient animal heat. But why has such a case never occurred before? Why have all the queens waited for the fall of 1871 in which to cease laying in a manner they have never done before? The truth is, however, that stocks have died this spring after the queens were breeding all right, and even after the severe cold weather was past, and with plenty of honey in the hives. In fact, in this section the honey gathered last season was of the best quality, as but little honey was gathered after the white clover harvest was over. The hives were well filled, and in most instances the stocks that perished had an abundance of honey.

I find also from reports received from Cape Breton and the eastern part of Canada, that in most cases the bees had an abundance of honey, and were capped over, yet the mortality was fearful. One gentleman writing me, says: "I think there are not over four stocks alive out of every hundred. I lost my entire apiary, consisting of eighty stocks, although my bees were in good condition apparently, and wintered in the same manner as I have wintered for years. I fully agree with you that it must be some dreadful disease among the bees." Mr. Thos. C. Hill, attorney at law of Sidney, Cape Breton, who was the first to introduce bees into that island, says: "My bees are all dead. I was not aware that others had suffered like myself, until I saw your account of it. I wintered my stocks in the usual manner, and they were well supplied with honey."

With the above facts before me, I am satisfied that no one has been able to correctly answer the question, while I am forced to believe that bees have suffered from some plague or terrible disease, in a manner similar to epidemics among other animals.

I am, however, inclined to believe it has reached its height, and will gradually disappear.

Brooklin, Ontario. J. H. THOMAS.

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[For the American Bee Journal.]

Bee-keeping at Hartford, New York.

DEAR JOURNAL:—For some unknown reason, Uncle Sam failed to deliver my Journals in regular order for a few months last winter and spring, and I thought I would give up taking it; but after missing its welcome visits for several months, I am again made happy by receiving the back numbers, and though I take other bee papers, I will not dispense with the Journal again, unless Uncle Sam fails me entirely.

I find in it a freedom of discussion of bee interests which I cannot find in journals devoted to the advancement of their own patent hive interests; and as long as the Journal keeps itself free from bee-hive patent-right-ism it will be looked up to as standard authority, and its circu lation will increase with the progress of bee-keeping.

In speaking of patent hives, I have used several kinds, and from my experience and observation, I find there is no hive better than the Langstroth, or Novice's simplification of it, and to those who are seeking for simplicity in construction, ease in manipulation, that description is alone worth a year's subscription to the Journal. Should the beekeeper desire to obtain his surplus honey in the comb, sets of small frames can be suspended in the upper story.

With a very simple entrance, one can admit the bees parallel with the combs, or broadside or "*vice versa*," thus reaping all of the advantages of Adair's system of giving plenty of room near the entrance. So here we have a genuine revolvable-reversible hive, invented by Novice.

I shall not agree with Novice in relation to brood in deep frames; my frames are 14 inches in depth, and are invariably filled to the very lowest cell with brood, the upper edge being filled with honey.

In common with hundreds of beekeepers in all parts of the country, I lost several swarms—13 out of 25, and the remainder doubled themselves down to 5, and if any one ever felt like getting into a hole and hiding, I did, for several days last spring. New-fangled hives and book "larnin" was the cause; but a comparison of notes showed as great a loss in box hives as in any other.

When I looked over my deserted hives and saw the pile of beautiful worker combs, my heart was wrung with unutterable anguish at the idea of melting them up for a few pounds of wax.

I luckily found 7 swarms for sale for $30, and took possession of them. I now have 25, and will make $200 from them, and would have doubled that, if basswood had done the fair thing.

I attribute a portion of my loss last winter to a too free use of the extractor; this season I have adopted a rule not to empty any comb in which there is brood; as a consequence, all of my swarms have plenty of honey and some to spare. In the foregoing, I have reported a dark side to the avocation of bee-keeping, but though cast down, we are not disheartened, and hope to go into winter quarters 30 swarms strong.

SCIENTIFIC.

[For the American Bee Journal.]

Success in Bee-keeping.

MR. EDITOR:—The experiments and observation of twelve years in bee-keeping, prepare me to assert confidently that every farmer with 100 acres of land, may secure annually, from 100 pounds to 200 pounds of honey in boxes of convenient size, for use or market, if he has a fair amount of white clover in his fields, and raises a few acres of buckwheat.

This, on the supposition, that the orchard and early spring flowers give opportunity for an early start of the workers in the spring.

Expense.—The first season will require an expense of $4 or $5 for a hive and sample box, or $7 or $8 for a hive and boxes to contain 200 pounds of surplus honey, and from $5 to $10, for a colony of bees. That is from $10 to $18 the first season, and nothing but a little care and attention after; securing, at 25 cts. per pound, from $25 to $50 in surplus annually, for ten, twenty, and some colonies have exceeded thirty years, without any change of colony or comb.

Every town six miles square, contains 230 and 4 10 hundredth acre lots. One colony upon each hundred acre lot would give in surplus, at this rate, from 23,000 to 46,000 pounds of honey per annum, at 25 cts. per pound, would be $5,750 to $11,500 per annum.

This income might be secured; in some towns more, and in some less, according to the season, or the amount of honey-producing flowers.

But 230 farms of 100 acres each, with 230 farmers, one upon each hundred acres, will hardly be found in one town. One farmer has 20, another 100, and another 300 or 400 acres. Many farmers take no interest in bee-keeping. Then let us make another suggestion. Let a judicious, active man, or a number of such men associate, and by agreement among themselves and the proprietors of the soil, place 36 apiaries, with four, five, or six colonies, or more, in each apiary, according to the abundance of honey producing flowers upon each square mile; this will bring each apiary about one mile distant from the other, giving them half-a-mile's flight in each direction, and sufficiently distant from each other to prevent robbing, and to gather the honey secreted by the flowers. If the danger of swarming is obviated, as I think it may be, a visit to each apiary once a week, to note their progress, is all that is required, until the time for the removal of the boxes, and with the box room for 200 pounds of surplus, probably but one removal will be required for the season. Two weeks' time in the spring and two in the fall may be all that would be required for the whole number of apiaries. Eleven thousand, five thousand, or even one thousand dollars will pay for that.

But this is after all is put in operation; how shall we begin?

1. Procure a hive with a breeding and wintering apartment of about 2000 cubic inches, and surplus honey boxes that will hold from 100 to 200 pounds.

2. Procure as many colonies of bees as you wish to commence the trial with, equalling your number of new hives. Get large colonies early in the season. Place your bees where you wish your new hives to stand.

3. When a swarm issues, hive it in your new hive, and remove the old hive from its stand, placing the new swarm upon the old stand.

4. Cut out all the worker brood comb from the old hive. Place it in a box and set it close by the entrance to the new hive. The bees will hatch out all the brood. They will enter the new hive as fast as hatched out, and thus make a very large colony the first season, probably giving from 100 to 200 pounds of box honey the first season.

5. Or, if preferred, movable combs may be used, and the combs be cut out and placed in the frames, and placed in the new hive, and the whole colony be thus transferred. But probably few farmers would wish thus to engage in transferring stocks, or using the comb frames after they are transferred. But either plan may be adopted, and hives may be made with either the frames or bars, as thought most desirable.

The result the first season must depend upon the strength of the colony in the early part of the season. When the number of colonies suited to the production of the field is acquired, little further care is required, but to place the boxes in the hive early in the season, and remove them when filled and capped.

I am so confident that this is the true road to the greatest success in securing honey in the greatest amount, at the least trouble and expense, that I feel an interest in its general adoption. JASPER HAZEN.

Albany, N. Y.

[For the American Bee Journal.]

Bees at Blue Knob, Pennsylvania.

MR. EDITOR—As I have not seen anything from this section in regard to bee-keeping, I will drop you a line. There are no extensive beekeepers in this vicinity, but people are beginning to awake in the interest of bee-keeping. A number of persons about here are adopting the movable comb hives, mostly Langstroth. A great many bees died last winter. I saved seven out of twenty-one, and some of them came out very weak in the spring. I had seventeen in a bee house, and four on the summer stands, and those on the summer stands all died.

Bees did not swarm much about here this season on account of their being so weak in the spring. I made three artificial swarms, and introduced three Italian queens in the hives from which I took out the swarms. They are the only Italian bees within five miles around. I got them from Mr. H. Alley, of Massachusetts, and they are doing very well so far.

Our bees did not get much honey until the buckwheat commenced to blossom, then they commenced in real earnest, and one swarm in a double Langstroth hive, on which I used the extractor, gathered sixty-six pounds of buckwheat honey—an insignificant amount, as compared to Novice and Gallup's bees, but it is considered good about here. But some of our old fogy neighbors think the bees spoil the buckwheat. In a conversation with a man the other day, I said the bees done pretty well on the buckwheat. "Yes," said he, "it cost many a bushel of buckwheat, too." I told him I did not think the bees hurt the buckwheat any. "Yes," said he, "I am confident they do, because that honey in the blossom is intended for the grain, and, of course, if the bees take it out, the grain suffers in consequence," and as I know very little of botany, I could not argue him out of that notion. AARON DIEHL

Blue Knob, Blair County, Pa., Sept. 24, 1872.

[For the American Bee Journal.]

Chips from "Sweet Home."

MR. EDITOR:—This means every reader of that old stand-by, the American Bee Journal. Our honey season is nearing its close. Linn and white clover was almost an entire failure. Bees gathered freely from shoemake, but it was quite strong, and, like strong butter, lasted well when used on the table. But we have received a bountiful supply from autumn blossoms, which grow abundant on the bottoms of the Mississippi. Fully one-half of bees died in this vicinity last winter; we lost one-sixth. In five miles last fall we numbered about 500 hives. I am located in the heart of this honey region.

Box honey will be almost an entire failure in some places, owing to the coolness of the weather preventing comb building. Honey slinging hives have done well. Our slinger is just what we want, except that it is not large enough to hold sufficient honey underneath the frame.

BEE HOUSE.

Ours is 8 by 16, should be 12 by 16. We use it for a shop and slinging honey. It has a door at the south end, and a *revolving* window on each side. It revolves on two pins, and is just the thing. When bees follow us in, or get in, which they will do, they will fly to the window, when we quickly reverse the window, and our thieves are easily put out.

LORD AND PALMER.

New Boston, Ill., Sept. 21, 1872.

[For the American Bee Journal.]

Novice's New Hive.

After an experience of four years, with practically the same box, I can endorse all Novice says about his new hive without top or bottom. The coming hive must be large enough to contain all a swarm can fill for a season without swarming, and have a movable board inside, to enlarge or contract at pleasure. In spring, the young bees or brood nest is always in form of a ball, always enlarging as the stock increases. I allow no more combs than the bees can cover, and add the combs or frames so as to keep this ball in centre of hive, with frames for storing surplus above and on sides. In very strong stocks, some of the choicest honey will be stored in lower story, even down to bottom.

The fewer partitions or other obstructions between the upper and lower story the better.

As soon as pasturage fails from frost or drouth, remove the queen with brood combs, and bees enough to protect them, and destroy the balance. My first object is to produce all the honey I can, and then save as large a percentage for market as possible. Thus I have almost all young bees for winter stock. Why feed old bees all winter that will die of old age before they are wanted to gather honey next season? If increase of stock is wanted by having extra queens raised in nuclei on hand, you can make all you see fit. In a poor season for pasturage, this hive will be no better than any other.

Bees in Greeley have done remarkably well this season. Two swarms managed as above, in part, have increased to eleven (11), with two swarms gone off in June for want of room (into the desert and probably perished), and yielded a surplus of one hundred and fifty pounds (150 lbs.)

The first honey produced in Greeley was of inferior quality. But with irrigation came buckwheat, white clover, and various other honey producing plants, until honey is now nearly as good as in Eastern States.

Our dry, clear atmosphere makes the flowers rich in honey and seed.

A bee farm of ten acres in white clover, stocked with cows, would make another Palestine flowing with milk and honey. When we get our clover patches fully developed, and Novice's new hive, full of combs in both stories, we of Greeley will astonish the world with the production of honey.

Have seen no moths this season, or maggots.

Wm. McClellan.

Greeley, Colorado, Sept. 18, 1872.

[For the American Bee Journal.]

Loss of Bees in 1872.

By M. Quinby.

More bees have perished in the Middle and Northern States, during the winter and spring of '72, than in any one year in 40 years before. A calamity that was so universal requires close scrutiny into the causes that seem to produce it. Among those assigned, dysentery appears to be the first great cause. When the cause of dysentery can be shown, there will be much gained towards a preventive or cure. I think I am prepared to show this cause. I have been obtaining statistics for months, and find the loss of bees attributed to starvation, old bees, desertion, unsealed honey, as well as dysentery. I would suggest those cold west winds, that continued for months with hardly an intermission, as a great promoting cause, all others as secondary.

Of our own bees, we lost heavily. We started with near 240. About 70 were in the common movable comb hive (such as is described in "Bee-keeping Explained)." A part, perhaps 20, were in straw hives, made like the board hive. The 70 were put in a barn cellar, where 200, 100, and a less number had frequently been wintered with the best results. Those in straw hives were, with one or two exceptions, in good condition in the spring. Those in board hives, with a small colony of bees, actually starved with honey in the hive. They were often between three or four combs on one side of the hive. When the honey in the combs where the bees were was consumed, they were too cold to remove to the other side for more, and starved. A *few* bees in the centre combs were apt to consume too much honey in the endeavor to keep warm; were affected with dysentery and left the hive; a few going at a time. Very heavy hives, with a moderate colony of bees, were affected in a similar way. It was only the strongest swarms, with a proper quantity of honey, that maintained the right temperature. The greater number of our bees were in the open air, in our new hive standing near the earth. They were packed on every side, as well as the top, with cut straw of several inches in thickness, ventilated at bottom, but not at top, except what would pass through the straw. Only the strongest ones in this situation passed the winter safely. I consider this the best arrangement for wintering bees that I ever devised. Yet an ordinary weak swarm could not generate warmth fast enough to expel the frost that would penetrate continually till the bees were effectually chilled.

When we look for the causes of dysentery, and find it in the cold weather, it is not the effect of a few days of extreme severity, but of protracted cold, that keeps the whole colony in a semi-torpid state. It would seem to be shown in the following cases: Within a few miles of us I examined two apiaries that stood within half a mile of each other the year previous. Both lots must, of course, have gathered their stores from the same field, making the honey of one quality. About 60 in each lot. Each were set close together for winter, and straw packed closely about them on every side but the front, that the sun might warm them somewhat whenever it shone. One yard was protected by surrounding hills from all prevailing winds, and wintered with comparatively small loss. Combs clear and bees healthy. The other yard was at the north end of an exceedingly abrupt and high range of hills, where strong westerly winds swept by unceasingly for nearly three months. The bees became chilled, and remained so without an effectual warming, even for a day. They gorged themselves with honey; had no opportunity to fly and avoid excrement, and it accumulated till their bodies would no longer contain it, and the moment a bee left the cluster in the hive—and many of them before—it was discharged. In most cases, when a few bees were left at the close of cold weather, they were too badly smeared to be of any value. Other corroborative testimony may be given. A gentleman offered 70 hives at auction. They had been left on their summer stands, and were in the old box hive. Half were new colonies. Between the day of advertising and day of sale, he found 20 of the young swarms dead. These bees were unprotected, except by buildings that surrounded part of them. The dwelling was perhaps 60 feet long, and stood north and south. The road, 30 feet in front, ran in the same direction. At the north end was a wood-house and other buildings, forming a complete break for all the winds in that direction. Between the house door and yard fence were two rows of hives, and one row extended beyond the south end of the house 40 feet. These bees suffered just in proportion as they were exposed to the wind. Those wholly unprotected by the house were all dead first. As the rows were followed to the north end, some were found alive. The last 8 or 10 were all alive, though reduced in numbers. They were besmeared just in proportion as they were out of the wind. There was not a No. 1 stock in the lot, and only about a dozen able to recover. I examined all carefully, and have described minutely, because it seemed that here was a chance to study causes and their effects. If we want to avoid dysentery, we ought to understand what produces it. Bees have dysentery without standing exposed to the wind. If in the sun, they soil the hive and combs much less. When the sun shines, the bee that leaves the cluster to discharge its fæces is generally kept warm enough to get away from the hive before soiling it, but they are chilled before they get back to it.

Giles B. Avery, of Albany county, reports more accurately than many others. After describing the house for the bees in winter, which was made specially for them, he tells us (see American Bee Journal for May, 1872, page 264) that 60 colonies were put in the room. The temperature of the house ranged from 25 to 40 degrees; most of the time stood quite evenly at 36 degrees. Bees were put in the middle of November, and remained till April 5th, at which time only 14 colonies were living, most of them having died, apparently, with dysentery. He then asks, Did these bees require more vent, or were they too cold? Here we have a case where bees had been successfully wintered, probably many times, and now for the first time badly affected. A strong colony of bees is capable of generating heat fast enough to drive out for a time almost any degree of cold. When a large number are in one room, they assist each other to raise the temperature. But when the cold is protracted beyond certain limits, say two or three months, the amount of honey consumed to resist it will accumulate in the body, improperly digested, till it cannot be contained. Hence, dysentery, even in the house.

"Why do some colonies in the same apiary show this disease, when others do not, while exposed to the same cold?" It may be explained in this way: It is known that bees must pack closely, in cold weather, for mutual warmth.

Examine the condition of those that winter best, you will always find a space usually in the centre of the combs from which brood have hatched, such combs are near half an inch apart; most of the cells are empty. The bees will creep into these cells, beside being three or four deep between the combs, the best situation to keep warm. Examine the surplus box that has been filled during a bounteous yield of honey, there is only a quarter inch space between the combs, and room for only one bee to get through. When a hive is filled like this box, how many bees could creep between the combs? and how long could they be kept from dysentery at the temperature of 35 or 40 degrees?

We can produce dysentery in a few minutes by cold. Try the experiment some frosty morning, when the weather is just cold enough to chill a single bee and not freeze it, when exposed outside the hive. Disturb a thrifty stock, and have the bees fill themselves, and afterwards scatter a few in the open air, nearly everything they alight upon will be soiled. It is impossible to have every hive in just the right condition of honey and dry combs. In a large apiary, some will probably have too much honey—if the yield has been fair—and we must expect some will show it.

A few bees were found that were successfully wintered, showing still further that this theory is correct. Mr. Floyd, of this county, in one of over 50 stocks, lost but two. Mr. Burklin, in Herkimer county, lost but about half a dozen out of 200. Mr. Ford, also of Herkimer county, lost less than 20 in 300. In every instance, where less than 80 were successfully wintered, they had the benefit of artificial heat. There was a fire kept in the room above, or adjoining the one in which the bees were kept. In most cases in the cellar, directly under the living room, where there was a constant fire.

Stocks that are queenless, or destitute of stores, &c., I have said nothing about, as they would need some other treatment. A physician that has a correct diagnosis of his patient's case, has him already half cured. If we have a correct theory of dysentery, the cure or preventive will probably suggest itself. Watch the weather, if too cold, make them warmer.

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[For the American Bee Journal.]

Bees not Working in Boxes.

Mr. Editor:—I cannot get any of my stocks to work in boxes this season—here it is the middle of July, and I have not got a single box of honey yet. It cannot be for the want of forage, for there has been plenty from the first of June until now. White clover began to bloom about the middle of June, and there is just as much now as there was then, and there was an abundance of bloom on linden, catnip, &c., which was crowded from morning till night.

On the 17th of this month, I opened a hive to arrange for putting on side boxes (I thought I would try them, as the bees would not work alone), and found every comb, except about three inches square in each comb which had brood in, filled up with the nicest honey I ever saw. This would do very well to sell if it were not for the brood.

This is the condition of most of my stocks, and I was compelled to send for an extractor, for if I do not take the honey from these hives, there will not be a young bee in the hive in a month, as the queens are almost completely crowded out. Can any one tell me the reason why the bees would not work in the boxes?

If it had only been so with some of them I would not have thought anything about it, but it seems that every stock in the apiary have caught the contagion of working in the body of the hive. They will work in small frames, put in the body of the hive (like the Buckeye), but the queen lays on them as well as the large frames, so I am just as bad off as ever. The boxes were all glass, and were put on about the last of May. The glass is no objection, as I have had no trouble before.

C. E. Widener.

Cumberland, Md., July 19, 1872.

THE AMERICAN BEE JOURNAL.

Washington, November, 1872.

The delay in the October number of the Journal was caused by the failure to receive the expected contribution of one of our most valued contributors.

We have given considerable space in this month's Journal to the proceedings of the Michigan Beekeepers' Association, thereby throwing over, until next month, several valuable communications. The articles of Novice, Gallup, Marvin, and Thomas, written for the Michigan Beekeepers' Association, will be read with interest and profit.

Our thanks are due to Mr. Porter, Secretary of the Association, for the prompt and accurate report of the proceedings which he has furnished to the readers of the Journal.

We wish to call the attention of many of our subscribers to the fact that they are in arrears in the payment of their subscriptions. This may in some measure be owing to ourselves. In June last we stated that we would, during that month, send bills to all in arrearages. But we were unable to do so. Other pressing and necessary duties prevented then, and have still prevented us, from doing what we promised. We have barely had the leisure to attend to preparing copy for press and mailing the Journals. As we pay cash for all we have done, we must expect our subscribers to do likewise. We trust that all who wish to continue subscribers to the Journal, will during the next month send what is due us. Send your money by post office order, or draft on New York, rather than by simply enclosing the money in an envelope; it may arrive safely, but there is a chance of its being lost.

We have received Adair's Annals of Bee-culture. 1872. Louisville, Ky.

Mr. Adair deserves great credit, as well as success, for his earnest efforts to give to beekeepers, at the end of each year, a careful review of the progress made during the year in bee-culture. He has enlisted in his aid, such able writers as Rev. W. F. Clarke, Prof. A. J. Cook, M. Quinby, Esq., "Novice," Dr. E. Parmley, Dr. Jewell Davis, E. Gallup, and A. S. Packard, Jr., M. D.

These names are sufficient guarantee of the value of the work. It is well printed on good paper, and well bound. We trust, the beekeepers of this country will encourage him in his efforts in this direction, and that the Annals of Bee-culture may be considered a permanent work. Price, 50 cts. per copy. Address, Col. D. L. Adair, Hawesville, Ky.

We return thanks to the Commissioner of Agriculture for an early copy of his Annual Report. Under the efficient management of Commissioner Watts, the Reports are no longer a year behind hand, but are issued promptly.

Transactions of the North American Beekeepers' Society, at Cleveland, December 6-8, 1871.

At last we have the proceedings. It fills a pamphlet of 53 pages. All beekeepers who are interested in the proceedings of these associations—and there are few who are not—should obtain a copy. Price. 50 cts. per copy. Published at Indianapolis, Indiana

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CORRESPONDENCE.

My bees are now doing well from smart weed and buckwheat. Yours, &c.,

E. Liston.

Virgil City, Mo., Sept. 17, 1872.

We shall never try to get along without the Journal as long as we can raise two dollars. The past season here has not been extra good, although August and September were extra good, and our stocks are all in fine train for winter. We shall winter on their summer stands, and should we live till spring, will report the average consumption of honey, and all other particulars.

J. Butler.

Jackson, Mich., Oct. 2, 1872.

This has been a poor season for bees in Erie county, New York. The drouth has prevented their gathering much surplus honey. Mine have done well. People say to me, "I have such bad luck with my bees. I don't see how you get along so well." I tell them I take the American Bee Journal, and there's where the luck lies. There are three requisites to successful bee-culture: the Italian bee, the Langstroth hive, and the American Bee Journal; and may they all exist as long as bees gather honey.

Mrs. W. H.

West Hamburg, Erie Co., N. Y., Sept. 23, 1872.

I like your journal the best of any that is printed. I will stick to it. I have raised 3,000 pounds of honey this year. Over 2,700 pounds I took to New York last month. I lost some thirty hives last spring. I have some eighty stocks in good condition as far as honey is concerned. Most of my honey was made in two weeks in August, on buckwheat. I think it has been a pretty poor season here. Those who had box hives did not get but little honey. I had two hives that averaged over 100 pounds apiece, which was good for this section and season. I mean to learn all I can.

Benj. Franklin.

Franklinton, Schoharie Co., N. Y., Oct. 5, 1872.

This year has been a bad one for surplus honey. From twenty-two swarms and their increase, eleven, I have taken one hundred and three boxes—about 600 pounds—besides eighteen boxes—108 pounds—stolen, which I fancy is about as well as any one has done this season. I made my swarms one from two by division. Will you give me your opinion of wintering bees under ground, on the Scholtz plan, mentioned by Langstroth, in the concluding pages of his work? I think I will try it. I have made my pit twenty-four feet long, and covered it with boards, ready to put on straw and dirt, and fix my ventilating tubes, one 3 inches and one 2 inches, and dug a trench the whole length. Would you advise me to risk all my bees in such a receptacle? I tried the cellar last winter, and found it too warm.

CHAS. D. HIBBARD.

Auburn, N. Y., Oct. 9, 1872.

Our winter was very hard on bees here, and the number of stocks is much reduced, as swarms this summer have been very scarce; but thanks to Messrs. Root, Gallup, Grimm, Alley and many others, I have succeeded in getting about 900 pounds with the extractor. I find, as Mr. Root describes, that the queens lay rather too freely in my upper hive. With best wishes for the success of the American Bee Journal, I remain yours respectfully,

FRED. GEO. NASH.

Niagara, Ontario, Sept. 16, 1872.

Nearly half of the stocks of bees in this section of country perished with that bee disease. I lost two out of ten, and a neighbor in box hives twenty-six out of twenty-nine. And most stocks that survived were so weak that they were not in condition to gather the first half of the crop of white clover honey, and as the drouth made a short season, our honey yield is small. Mine averaged about 35 pounds for the eight swarms, but two have failed to do anything for me. Average for the six that done the storing in boxes, about 46⅔ pounds, one of them, 75 pounds. In hope of doing 100 per cent. better next season, and a big hurrah for the American Bee Journal and progressive beekeeping, I am truly yours,

A. W. DAVIS.

Walworth, Walworth Co., Wis., Sept. 18, 1872.

[For the American Bee Journal.]

The October Journal.

Although the October number has come to hand unusually late, we will try and send a few "remarks" thereon, as many of our readers have encouraged us in these efforts, by their many kind and complimentary letters, for which they will please accept our grateful thanks. It is our desire to add our mite to the general fund of apiarian knowledge, if, by so doing, we can be of service to the bee-keeping public. Had we as much leisure time as some writers seem to have, we are sure that these articles would be more entertaining, and far more than they now are. As it now is, we have so much to do that the "wee small hours of the morning" oftentimes find our tasks uncompleted.

This time, friend Novice, with his smiling countenance, stands at the head of the list, a place he fills with becoming propriety. It seems that his wholesale bee-feeder does not "work to a charm." However, we think Novice equal to the "situation," and trust he may yet succeed. His experience with the sugar and wax in comb-building is very much like our own. Has any one succeeded with *any* device for getting artificial comb of practical value? We know of none except Mr. Quinby's tin combs, but they are very expensive, and their practical utility has not been fully established, we believe. At one time we had strong hopes of the value of the patent comb foundations; but they have utterly failed with us. Instead of going to work and lengthening out the cells, as obedient servants should, the foolish creatures will persist in tearing down the "foundation," and rearing one of their own.

But we pass on to see Gallup prepare his hives for out-door wintering. We know by sorry past experience that he is correct, and that bees *do* need upward ventilation in winter, some of the rest of mankind to the contrary, notwithstanding. Nor did we get our knowledge and opinions from book theories, as a certain party whom we might name has intimated. We had the same opinions in regard to upward ventilation *before* we ever read a book or paper devoted to bee-culture. We, in common with very many others, would like to know why one of the chief supporters of the no-ventilation *theory* did not answer Mrs. Tupper's questions addressed to him in the BEE KEEPERS' JOURNAL, *if it could be satisfactorily done.*

We must say that our *experience* is greatly at variance with Novice's *theory*, in regard to wintering bees in double wall hives upon their summer stands. If Mr. Anderson will follow Gallup's directions, we think he will have no trouble in wintering his bees out of doors.

Mr. Dadant's letters were read with much interest. We were sorry that he had so much difficulty in procuring queens. But imagine, if you can, Mr. Editor, our surprise and disappointment upon learning by private advices, that out of about 350 queens that he brought home, only 69 were living upon arrival. Thus it seems that success has not yet been attained in importing queens. Cannot some Yankee, of an inventive turn of mind, contrive some plan by which we can succeed.

We fully agree with Mr. Lunderer as to the utility of the cloth honey boards, or "honey quilts," rather, as we term them, but we have no such trouble with them as he describes. This is owing to the style of frame we use. Instead of the old style of top bar, which is flat on the top, we use a square piece (five-eighths of an inch square), put in diamond shape. This gives us a bevel edge, above as well as below, and not a single bee is crushed or imprisoned when the quilt is put on, even though the tops of the frames are covered with bees. We make ours a couple of inches larger each way than the top of the frames. For summer use we prefer to leave out the cotton batting entirely. Mr. C. C. Miller wishes some one to tell him how to introduce queens successfully. Perhaps we can. We tried the methods most successfully used by others, but failure was often the result. We found, at times, when honey was abundant, and the weather favorable, that almost any good method would succeed, while at other and less favorable times they would fail. So we went to work to see if some method could not be devised that *would* work under all circumstances. And here is the result of our experiments. Remove the reigning queen. We find her the most easily about four o'clock P. M. Put your queen you wish to introduce into a Gray & Winder cage, and lay it upon the frames. Now leave her there from one to four days. If honey is coming in abundantly, one day is long enough; if not, longer, according to circumstances. When ready to liberate her, put fifteen drops of essence of anise into one half pint of water that has been well sweetened. Sprinkle the combs and bees thoroughly, using a small brush broom, which we prefer to the odorator; sprinkle the cage, and then let the queen crawl down among the bees on one of the central combs. We always liberate queens now about the middle of the afternoon, and have never yet lost a queen by this method. In reply to Mr. Gastman's inquiry, if bees are ever smaller because bred in old comb, we should say, most emphatically, NO.

We, too, think that "sugar syrup should be thoroughly boiled before giving it to the bees.

We have no such trouble now, as "Dronings" complains of, in getting straight combs. We know that much depends upon the size and shape of the frame. We never did have our combs built true until we adopted the frame we now use, which is ten inches deep, twelve inches long, runs from side to side of the hive, and *are* close-fitting at the ends. In over 150 cases, we have not yet had *a crooked comb*. (No patent in view, remember!)

We find several errors in our own article, one of which is, the frames, and not the bees get waxed fast. Probably no one thought we meant that the bees "would wax themselves fast."

Before closing, we would like to ask a few questions, and if Novice had not yet ascended so high in the scale of human greatness as to become utterly oblivious to the wants of "we little folks," we would inquire by what motive he is actuated that impels him to stab Mr. H. A. King at every convenient opportunity. Is it spite, malice, and revenge? Or has he become surcharged with bee poison, and must *sting* in return? At any rate it seems to be one of his favorite modes of advancing (?) the cause of bee-culture. If we mistake not, he is quite sensitive about having his own corns tread upon. Does he suppose that others have any feelings like himself? Now, friend Novice, why not try and cultivate friendly feelings instead of stirring up discord.

We would like so write very much more, but nature asserts herself, and demands that we lay aside this rusty old pen and go to bed; and as it is now past twelve o'clock, we really think we must obey. So, once more, good night all.

HERBERT A. BURCH.

South Haven, Mich., October 14, 1872.

* * *

During this month, those who winter their bees on their summer stands should see to it, that the hives are well secured against cold winds, and protected from the rays of the noon-day sun.

[For the American Bee Journal.]

Patent Hives and Bee Journals.

MR. EDITOR:—Owing to the loss of my residence by fire in April last, as heretofore announced in your Journal, I have not found sufficient time to read the Journal as closely as I desired to, and have by no means had time to reply to an article, written by Mr. Gallup, on page 282, vol. 7. I will now endeavor to do so, and at the same time, will express my opinion in regard to Mr. Langstroth's hive, his patent on the same, and my views in regard to the bee journals of the country.

I would first state, with regard to the language used by Mr. Gallup, on the page above named, concerning the hives on exhibition at the Indianapolis convention of beekeepers, that although he may have given us a report in part, he nevertheless failed to qualify his language by telling us the whole truth, which failure leaves him still, as charged by me according to the construction that any one familiar with the English language must place upon his (Gallup's) phraseology.

In regard to the shallow excuse, he charges me with having used, in order to get my T. R. Allen hive in, I would remark that is indeed so shallow that Mr. G. cannot conclude that I am, or ever was in any way interested in it. I simply stated that it, the Allen hive, and the Langstroth hive were both there, and that they both were constructed on the two-story plan, a feature very desirable where the extractor is to be used, as the maturing bees were not interfered with in extracting honey from the upper set of frames.

The above is the substance of what I said in regard to the "Allen Hive," and is not in the least calculated to induce anyone to believe that I have any pecuniary interest at stake in the one or the other of these hives.

Now, Mr. G., please be honest enough to reply to my article, and not to what you see in my circulars and cards, as published in papers in no way related to the AMERICAN BEE JOURNAL.

I will here state, that in some respects, I prefer the Allen hive to any one I have ever seen; and in some other respects I give the Langstroth the preference over all other hives in use. I use about an equal number of each, using one style for one purpose and the other for another. I own some Langstroth territory, and am acting as general agent for the Allen Hive. Now, Mr. G., which am I puffing most?

I feel confident that the Langstroth patent is perfectly legitimate, and that Mr. Langstroth has not received neither the credit nor the money due him for his invention. But on the contrary, he has been maltreated and slandered. I do not pretend to say that Mr. G. is guilty of such conduct, but I am now addressing such parties as are not only guilty, but doubly so. And I will say farther, that these guilty parties should be, if possible, made to blush with shame, and be compelled to pay Mr. Langstroth what they justly owe him. I feel perfectly safe in hazarding the prediction that there was not a single hive, embracing the movable comb feature, in use on this continent, and so arranged as to be of real value prior to the date of Mr. Langstroth's inventions and publications. But so soon as his discoveries were found to be of real value, efforts were made to dodge his patented features, and when they have been complained of, or were about to be brought to justice, the plea has been set up that he was not entitled to such claims as his letters patent called for. The result of which is, that hundreds of hives, nearly all containing some of Mr. L.'s patented features, have been thrown upon the bee-keeping public, and sold as the invention of the salesman, or his employer. At the same time, in cases where they contain any features worthy of note, they are in nine cases out of ten covered by the Langstroth patent. In some cases, parties get up a hive somewhat different from Mr. Langstroth's, and say there is no patent on it, and that they do not manufacture it for sale, but will send a description of it to any one wishing to use it for one dollar; or if that is too much, they will let it go for twenty-five cents. But in said description I am not aware that the purchaser is ever told that the movable comb contained in it, is covered by the Langstroth patent. Now, Mr. Gallup, my custom is that of stating fairly—in such deed, just what the patented features of the Allen hive are, so that no one can justly claim that I have sold him a single feature, covered by the L. patent. True, it contains a movable comb; but when the purchaser fairly sees that I have not sold him the right to use this feature, he certainly knows that I have not imposed upon him. I have never inquired of Mr. L. as to whether his patent covered the comb frame, as used in the Allen hive, or not; yet my own opinion now is, that it does. At any rate, Mr. Allen, when living, never denied to me but what he was indebted to Mr. Langstroth's invention for the movable comb feature of his hive. I am fully aware that this kind of talk is not well calculated to sell the Allen hive, but if it is never sold by me, until it is done in a fraudulent manner, it will remain unsold.

Now, Mr. Gallup, I hope that you, in company with all others, fully understand me on the patent hive question.

But you go on and state that some of these patent hive fellows no doubt wish that Gallup and the American Bee Journal were dead and buried. How this is with regard to certain ones I shall not say, but if you have reference to me, I must simply say in reply, that the statement is not true; for I have been a regular subscriber to the American Bee Journal since its first issue, and for ought I know, will be as long as I live. I have also recommended it as having no superior in this, or any other country. This is much more than I would be willing to say for some others in circulation. And, as regards yourself, I will say that I shall not enter a single complaint, if you live until the earth shall, from old age, moulder into dust, and still let you remain on the top of it, barking and snapping at nothing, as you have in so many instances done up to the present. But I would advise you to do less of this kind of work in future, as constant snapping will, in the course of time, wear the enamel off the best of teeth, and render them worthless.

In conclusion, Mr. Editor, permit me to state that the honey yield in this section of the country has not been very liberal this season, and I fear that many colonies will have to be fed through the winter. The golden rod is now in bloom, but does not appear to be yielding any honey so far; and as this is the only source from whence bees can collect honey at this season of the year, and as their present supply is scant, our prospects are not as flattering as we could desire. G. Bohrer.

Alexandria, Madison Co., Ind.

[For the American Bee Journal.]

Bees in Canada.

Bees did very well here during the early part of the summer, but as little buckwheat is raised in this part of the country, they suffer for the want of fall pasturage. But few bees are kept here, and little is known of their habits and proper management. The "taking up" process is still in vogue among the few who have them.

Mr. Editor, would you please make the suggestion in the journal that correspondents give the names of their post office, county and State. Many articles in the journal would be of much more value to me if I knew the exact location of the writer. No doubt others would be glad to have the same information. Geo. Cork.

Queenstown, Lincoln Co., Ont., Aug. 19, 1872.

* * *

Last winter was long and cold. Many colonies perished, some, no doubt, from carelessness, and others not knowing the proper conditions for successful wintering, but none for want of supplies, as quantity and quality was ample. I wintered seventy-two, all I had, in excellent condition in the spring, except the loss of a few queens, which is liable to happen any time, either winter or summer. Have not lost a colony of bees in seven years (after they were established twenty-four hours in the hive) from any cause; due attention at all seasons is absolutely necessary for success. This season, so far, but few swarms and little surplus.

Wm. Reynolds.

Lexington, Ill., July 23, 1872.

* * *

The Tennessee Apiarian Society, at its regular meeting, September 14th, elected the following-named officers for the ensuing year:—President, James C. Owen, of Brentwood; Vice President, J. R. Spitler, of Edgefield; Secretary and Treasurer, W. E. Ladd, of Brentwood; Corresponding Secretary, J. W. Crocker, of Nashville.

The society meets in the Farmers' Club rooms, Nashville, the second Saturday in each month, for the dissemination of Apiarian information; all beekeepers, whether members or not, are invited to attend and participate in the meetings.

Free sample copies of Bee Journals can be had of the Secretary.

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[For the American Bee Journal.]

Novice.

Bless your heart, old Bee Journal, we really believe we shall have to take off our coat, and go for you in shirt sleeves.

Right following our article in October No., Gallup recommended a plan of out-door wintering, as far from our instructions as can be, and the foreign articles give advice both ways, in the sun, and positively out of the sun, and some one (no name, but thank him for the criticism) says our syrup aint made right, and then Mr. Burch says we took three columns, etc. Did you ever!

It is quite probable Gallup's bees wintered nicely, as he fixed them; but can we afford to cumber our apiary with all that trash and rubbish? for, were we to prepare our seventy-one hives as he mentions, think of the labor compared to that of just setting in a properly arranged bee house (we have put in sixty in an hour, *alone*), and then, seriously, can they be wintered on the same amount of honey? and, then, suppose we prefer small colonies, *a la* Hosmer.

Weigh your hives carefully, our "summer stand" friends, and tell us how much honey is consumed, and how many weak colonies are lost, and we will soon have accurate data.

Quinby remarks, that to get the full benefit of a house or cellar, at least fifty colonies, we think, should be in the one room. Now, how are we to enable one colony, alone, to enjoy the same advantages by making non-conducting walls about, and thus deprive them of the benefit of the sun's rays besides? A dead air space, and the outer wall glass, it is true, as given on page 83, is an approach to it; but, even then, can we consent to use anything so frail and cumbrous?

Please don't anybody patent the idea!

Now, then, once more! and we shall keep harping on the subject until Europe and America gives us proof of its fallacy, if they can. Are not bees occasionally wintered well under almost all circumstances, with upper and lower, and even *horizontal* ventilation, as Gallup says it is called; and even, too, with *no ventilation?* Adair says they don't need any, and he can give you, that have never tried it, powerful proof; for bees do winter sometimes well with no holes in the top *at all;* and, too, they *don't* winter at times when they have every kind of ventilation.

Is ventilation the trouble at all, that beekeepers have quarreled so much about? Is it rather not food? And now we come to it. Will not pure, wholesome food (sugar syrup) winter them with any *kind* of ventilation, out doors or in, only that out in the weather they need much more.

Our unknown friend, page 91, gives us proper credit, but a host of others forget to; and Alley, besides, page 93, says he has used it for fifteen years. We think he must have forgotten to add that he only knew he succeeded, without knowing why, until we mentioned it.

Gallup, too, says he had recommended it long ago; but until some one can show in print where they have ever advised sugar syrup as being *safer* than honey, we shall claim our "laurels."

Thank you, Mr. Leuthe, page 87; you, and every other beekeeper, can *surely* get a barrel of honey from every ten stocks, the poorest season we have had in the last *seven years* (we did not know a queen before then.)

It certainly looks badly to see so many correspondents telling about "poor seasons," and the "poorest ever known." It is the "beekeepers," and not the seasons. If you would only throw away your old honey boxes, and use an extractor long enough to *know* it far easier, besides, being neat clean and safe.

At present the complaint is, it don't sell; and we hereby petition the Editor to allow every beekeeper having extracted honey unsold, to state the same in this Journal, how much, and what they will sell it for. Many are writing to us for it now, and we have sold our last for eighteen cents; and it retails in Cleveland for twenty-five cents.

As freight is considerable, those who wish to buy can then send for that which is nearest their locality.

I thank you, Mr. B. Lunderer, page 87, for a new idea. After using cloth quilts over a year, we could not think of using boards again.

Make them like pillows, with a *case*, and when the case is covered with propolis, remove, and wash with benzine, or make a *new case.* If they see light through a single thickness, they are more apt to eat through.

We think you will like it better to have the hive come half-inch higher than top of frames, and then you can tuck in the quilt so that "nary bee" can get above it, which they never should do.

Page 75 and page 88. "What would Novice do?" and "What killed bees in such a hive as that?"

1st. Coffee sugar syrup sealed up in combs, and, 2d, because they didn't have pure food such as coffee sugar, etc., etc *Bless your hearts*, have we not told it often enough before?

And now, Mr. Unknown, we like you tip top, but 'twas "naughty" to say our experience was limited. "The proof of the pudding," etc., for our syrup don't candy, and won't; so, there; and never did, only when we forgot the cream of tartar; but you are right part of the time, too. Listen: We made a barrel of syrup our way, stirred it with a hoe about ten minutes, guessed at the quantity of water, and as you say, the sugar didn't all dissolve, but we put on our float, and the bees took up all that had dissolved, and then we stirred in more hot water; the result was only this, that the syrup was so thin they could not cap it over for several days, but it don't candy at all.

We now boil it, because we can't make syrup thick as honey otherwise. But our receipt is all right, we know; and we *don't know* your vinegar receipt is just what is wanted for bees. *Do you?* Why do you put in so much water, and have all the trouble to boil it out again?

Page 92. When you raise queen cells, don't never remove your choice queen at all. *Swap frames with a queenless hive*, or make any hive you wish queenless, and then "*swap*" *frames*.

If you can't swap frames in less time than you can remove queens, you had better make one such a hive as we took *three columns* to *explain*, and yet, friend Widener, page 96, will turn the bottom board *upside down*. Bless you, Mr. W., why did you suppose we insisted on having bottom boards just like cover, bevelled around outside edge of top and all.

Mr. Burd, you really astonish us. Did you consider, as Quinby once said, that that hive might have been our "pet idea," and how you might hurt us. We expected, of course, some heavy criticisms on such a hive, too cheap and simple, etc., but not from *you*. On the contrary, we were really worried, for fear you would explain the whole thing to the "Deacon," or something to that effect, as your "own ideas," and then we worried more for fear Mr. King would be afaid it might injure *his* hive; but as it is, we are really pleased, for you can stand on "your own feet," and tell us what desirable things can be done with "*your hive*" that can't be done quicker with ours; or, rather, with the Langstroth hive as used by NOVICE.

* * *

Let beekeepers avoid personalities in their discussions; they cause irration and bad feeling, and do much to hinder the progress of true bee-culture, while they do little or nothing to develop truth

[For the American Bee Journal.]

The Bay State Hive.

Novice thinks that perhaps this hive has been unduly praised in the Journal. Now, as I may, in some measure, have laid myself open to this charge, I deem it due to Mr. Alley to say, as I have said once before, that while I do not pretend in the general way to make a *comparative* estimate of different hives, yet, that I do feel at liberty to state facts, and here is one. During the present season I had a Bay State Hive on a frame, together with an American hive on one side, and a Langstroth on the other. Neither of the latter two gave me an ounce of surplus honey, while I obtained between sixty and seventy pounds from the B. S. Hive.

Now, we know that the Langstroth is a good hive, and the friends of the American claim great credit for that particular style, but here with equal stocks, and with perhaps some difficulties, which I could not discover or remedy; we find the most marked difference in the results.

I wish to do no injustice and to exhibit no improper partiality, but certainly I do not think that I at least have praised the B. S. Hive unduly; but after saying this much, it may be proper for me to add, that I am not personally acquainted with Mr. Alley, and have no other connection with his hive than the fortunate possession of *one* of them, and I should be glad if every subscriber to the Journal would "go and do likewise," that they may then more intelligently decide the question as to the amount of praise to which the B. S. Hive is entitled. Does Novice own one? If not, won't he try one?

B. J. B.

* * *

[For the American Bee Journal.]

Dronings.

Profiting by NOVICE's suggestions, I have the impudence to think that I have actually improved upon his latest *bee-feeder*. I take a tin bucket, with a top, of course (of height and diameter to suit different hives), have a flange of about an inch depth around the bottom, perforated with innumerable small holes. It is better to have the smooth side of the bottom below, as the bee thereby can insert its proboscis more readily. The bucket being placed over the holes of the honey-board, the bees come up and feed undisturbed and *undisturbing*.

I would caution my brethren against putting too much water with the sugar fed to bees. Having erred in this myself, I soon found a stream of liquid sweets trickling down, and before I could correct the error, a horde of robbers made their appearance. The feed should be boiled well, for I agree with the anonymous critic on NOVICE, that simply to pour boiling water over the sugar is by no means sufficient. With a bucket of this description, 12 inches in diameter, and say 4 or 5 inches high, I think that 25 pounds of coffee sugar could be readily taken up by a colony in twenty-four hours.

2. I thank you for the translated articles on the varieties of the Linden. Besides those mentioned, there is still another variety, known as Stone-lime or Linden, peculiar to the forests of Lithuania (in Russian Poland) from which the celebrated honey known as *Liepic* is gathered. This honey readily commands (from crowned heads and the nobility) two ducats, or say two *dollars* a pound. The wax is of peculiar whiteness, the flavor is exquisite (described as uniting vanilla, thyme, and mint), and is not so heating as ordinary honey, this makes it especially valuable as a vehicle in pharmacy. *How* mentions that in the neighborhood of *Kowno* (where this honey is produced) the inhabitants have no regular bee-hives, every peasant is at liberty to go into the forest, even without the direct permission of his chief, and select the trees for his bees; the tree is hollowed out to the proper size, the bees are put in and left without much fear of any robbers, except the bear; for the law is so severe that few have the temerity to expose themselves to its penalty, for any one detected in robbing a hive is liable to have the *omphalos* (let us call it) taken out, and his entrails wrapped round and round the very tree he has robbed.

3. These cool evenings in October make the necessity for *Novice's* alighting boards particularly manifest. The bees tempted out by the warmth of the mid-day sun, and the attractions of the Golden Rod and the countless fall flowers, are very apt to keep up their work until after sunset, and becoming somewhat chilled as they return "heavy laden," are liable to fall in front of the hive if they miss the entrance, and unless this alighting board is there to receive them, hundreds, perhaps, in a large apiary, we might say thousands, "fall to rise no more."

4. Coming back to the Linden, shall not every one of us who has the time and opportunity, be assimilated by the example of Novice, to commence at once to have a Linden orchard. How small the trouble compared with the grand results for ourselves, and for our children after us. When we think of the countless tons of honey that might be produced through many generations from these beautiful trees, a double significance is given to the exclamation that Sir Walter Scott puts in the mouth of an old Scotch laird: "Be aye sticking in a tree, Jock! it'll be growing while ye are sleeping."

5. I have read carefully all that has been said (not only in the last number, but throughout the year) in reference to the wintering of bees, and whilst I have no practical experience in this matter, it is very evident to me, that the great mortality among the bees is mainly due to *over-kindness;* the bee, like the rest of God's creatures, needs a certain amount of freedom, and this shutting up in cellars and other winter quarters, is entirely at war with the nature and habits of our little friends. Even in the coldest climates, a day comes now and then during winter, when they might and would take a "purifying flight;" but, shut up in close quarters, they are obliged either to "resist the call of nature," or else to do what is so opposite to all cleanly creatures, "*foul their own nests,*" and then *dysentery* is the obvious result. I firmly believe that if bees were treated as Gallup advises (*A. B. J.*, October, 1872, pp. 74, 75), they would winter well, even in Siberia! but you must be careful to follow Gallup's advice *fully and entirely*, for, depend upon it, if you fill the top of your hive with an absorbent material, without providing *openings above* for the escape of the redundant moisture, you are only giving additional point to the wit and wisdom of the old doctor, who, in denouncing the administration of opium for colic, said it was like *locking the thief up in the house to do all possible mischief!* B.

Chatauqua County Beekeepers in Council.

The Chatauqua County, N. Y., Beekeepers' Association convened at Mayville, September 3d. President J. M. Beebe, of Casadaga, in the chair. In the absence of the secretary, Mr. O. C. Blodgett, of Pomfret, was appointed secretary *pro tem.*

Mr. Beebe opened the meeting with a few appropriate remarks. "He hoped the speakers would confine their remarks to the points in question; rambling discussions are idle, and our time is too limited to-day to admit of them." He then read a paper that went to show *the amount of honey accumulated each day by a swarm of bees:*

At twelve o'clock on the 27th day of June I hived a young swarm of bees and immediately placed them upon scales, and found their weight to be 8½ pounds. My object in weighing them was to ascertain how much a medium swarm would weigh, and to know how much honey they gathered from day to day.

I have kept them on the scales since the 27th of June up to the first of the present month, in order that I might more fully understand to what extent the wind influences the production of honey. I have for years noticed that when the wind was in some directions the bees were inactive, and upon examining clover blossoms, I found they were nearly destitute of honey, while, when the wind was in other directions and the general weather the same, the clover yielded honey, and was freely visited by bees. I find all honey-yielding plants are in a like manner affected by the wind.

Not feeling satisfied with near observations, I determined to try old Fairbank's platform, and have accordingly kept a record from day to day, of the direction of the wind, state of the weather, and amount of honey gathered each day, which is as follows:

June 27. ½ day, wind south, rainy; honey gathered ¼ pound.

June 28. Very warm, wind south; honey gathered 1½ pounds.

June 29. Very warm, wind south; honey gathered 1½ pounds.

June 30. Warm and clear, wind southwest; honey gathered 2½ pounds.

July 1. Warm and clear with high west winds; honey gathered 2 pounds.

July 2. Warm and clear, wind southwest; honey gathered 2½ pounds.

July 3. Warm and pleasant, wind southwest; honey gathered 3 pounds.

July 4. Warm and rainy, wind southwest; honey gathered ½ pound.

July 5. A little cooler, wind southwest; honey gathered 3¾ pounds.

July 6. Pleasant, wind west; honey gathered 2½ pounds.

July 7. Pleasant, wind west, cool nights; honey gathered 1½ pounds.

July 8. Pleasant, wind southwest; honey gathered 2 pounds.

July 9. Pleasant, wind southwest; honey gathered 2¼ pounds.

July 10. Rainy forenoon, wind southwest; honey gathered 1¼ pounds.

July 11. Sultry, wind southwest; honey gathered 2¾ pounds.

July 12. Warm and cloudy, wind southwest; honey gathered 1½ pounds.

July 13. Warm and clear, bees commence work on basswood; honey gathered 2¾ pounds.

July 14. Warm and clear, very still; honey gathered 3½ pounds.

July 15. Warm and cloudy, afternoon rainy, wind southwest; honey gathered 1½ pounds.

July 16. Warm and cloudy, wind south; honey gathered 3¾ pounds.

July 17. Warm and cloudy, wind west; honey gathered 1 pound.

July 18. Rainy forenoon, wind south; honey gathered ¾ pound.

July 19. Pleasant and cool; a loss of ½ pound.

July 20. Clear, wind south; honey gathered ¼ pound.

July 21. Rainy all day, wind west; scales balance.

July 22. Clear and cool, wind west; scales balance.

July 23. Rainy, wind northwest; loss ½ pound.

July 24. Clear and cool, wind west; scales balance.

July 25. Warm, wind southwest; scales balance.

July 26. Warm, wind northwest; loss ½ pound.

July 27. Warm and clear, wind northwest; loss ¾ pound.

July 28. Pleasant, wind west; loss ½ pound.

July 29. Pleasant, wind west; honey gathered ¼ pound.

July 30. Cloudy and warm, wind southwest; honey gathered ½ pound.

July 31. Pleasant forenoon, rainy afternoon, wind west; scales balance.

August 1. Cloudy, wind west; scales balance.

August 2. Cloudy and cool, wind west; loss ¼ pound.

August 3. Cloudy, wind north; loss ¼ pound.

August 4. Clear, wind west; loss ¼ pound.

August 5. Clear, wind southwest; honey gathered ¼ pound.

August 6. Clear and warm, wind southwest; scales balance.

August 7. Pleasant, wind southwest; scales balance.

August 8. Pleasant, wind west; scales balance.

August 9. Warm and pleasant, wind south; honey gathered ½ pound.

August 10. Warm and clear, wind south; scales balance.

August 11. Warm and clear, wind southwest; scales balance.

August 12. Warm and cloudy, wind south; honey gathered ¾ pound.

August 13. Warm and cloudy, wind southwest; scales balance.

August 14. Warm and cloudy forenoon, rainy afternoon, wind south; honey gathered ¼ pound.

August 15. Cloudy, wind north; scales balance.

August 16. Cloudy and warm, wind southwest; scales balance.

August 17. Warm and cloudy, wind southwest; scales balance.

August 18. Warm and cloudy, wind south; honey gathered ¼ pound.

August 19. Warm and cloudy, wind southwest; scales balance.

August 20. Warm and pleasant, wind northwest; loss ¼ pound.

August 21. Warm and cloudy, wind west; honey gathered ¼ pound.

August 22. Warm and cloudy, wind west; honey gathered ¼ pound.

August 23. Warm and pleasant, wind north; loss ¼ pound.

August 24. Pleasant, wind south; honey gathered ¼ pound.

August 25. Pleasant, wind southwest; honey gathered ¼ pound.

August 26. Pleasant, wind southwest; honey gathered ¼ pound.

August 27. Clear, wind north; loss ¼ pound.

August 28. Pleasant, but cool, wind south; scales balance.

August 29. Rainy, wind south; loss ¼ pound.

August 30. Cold and cloudy, wind north; loss ¼ pound.

August 31. Cold and windy, wind north; loss ¼ pound.

September 1. Pleasant, wind west; scales balance.

Cook—I notice that we had no east or northeast winds those days. I would like to inquire if any one has noticed any different effect of those winds upon the working of bees?

Beebe—I have long believed that north winds blasted honey.

Mr. Beebe then proceeded to read a series of questions for the consideration of the convention, as follows:

What is the best mode of wintering bees?

What is the best plan for making artificial swarms?

Which will make the most honey, an artificial, or a natural swarm?

Wherein are the Italian superior to the black bee?

Is a young queen suitable to raise queens from? Will her daughters be hardy and prolific?

What is the best plan for introducing queens?

Where bees are lacking a sufficient supply of honey, for wintering, would it be safe to supply that deficiency with a syrup made of a coffee sugar?

What is the best method of making sugar for feeding bees?

What is the best time for fall feeding?

Cook proposed that each question be discussed separately.

Ira Whitaker Kiantone—I have noticed that bees work best on buckwheat morning and night. I would like to inquire if 8½ pounds is weight of hive and bees, or bees alone?

Beebe.—8½ lbs. is the net weight of the swarm. Some swarms are heavier than that. Mr. E. J. Batchellor, of Stockton, once had a swarm that weighed 9 lbs., and made 8 lbs. of honey in one day in June a few years ago. There is a lessening of weight during the night.

The question was then taken up, "What is the best mode of wintering bees?"

P. G. Tambling, Pomfret—I have kept bees for 30 years with various success. I began with one swarm and have had as high as 73 at a time. The year before the great bee famine I had sold down to 33 swarms. That winter I lost 30 swarms, leaving me 3, and one of them was the old original one that I began with. The spring of 1871 I began with 13 swarms, and took off about 200 lbs. of honey. This season I began with the same number, and have only about 50 lbs. of honey. I would like to know the reason of the falling off.

Cook—The honey was not in the flowers this year; bees do not *make* honey, they only *gather* it. Nature must first furnish them with it in the flowers.

Tambling—I have tried wintering in cellar; failed. Generally winter them on the platform where they stand in summer. Think they need some protection from northwest wind. In the cellar they became damp and mouldy.

Cook—I have given some attention to the question of "wintering bees." In the house you cannot keep them cool enough. In the cellar too damp. He then went on to explain his mode of wintering. For this purpose he had a hive constructed with an air space between the bees and the outer hive, to prevent the extreme cold from penetrating. Above the bees his hive has an air chamber, in which he places some dry material for absorbing the moisture that accumulates from their breaths.

Whitaker—Must confess that the great drawback to beekeeping is the loss in wintering. Have tried wintering in cellar, but that would not do. The comb is thin in new swarms, and needs some protection. I built a house on the plan of an ice house, and placed my bees in it the winter of 1870 and '71. But in the spring I had trouble in setting them out. They would mingle together and get confused, and I lost many in the spring with plenty of honey on hand. I believe out of doors best, with some light protection. Stakes driven down around a hive, and straw placed in between, is a good way. The sides want protection as well as top. One hive was under a snow bank and came out well.

Cook—The experience of Mr. Osmer, of Minnesota, is often quoted, but he has found that as our winters are so different from theirs, that it was not safe to follow his plans here Bees wintered in the house were more apt to rob.

Tambling—How can you prevent bees from coming out in winter and getting lost?

Cook—Keep the light out of the hive.

Whitaker—During the January thaw, bees ought to be allowed to go out. It is natural for them. Will not do well if too much confined.

L. Weeks Ellery—Have had some experience in wintering bees for 15 years. I think they need some protection, but not too much. I live in a hollow, and am somewhat sheltered from the wind. I usually winter my bees in a rough shed. When I have lost bees they have generally starved. Began with 6 swarms last spring; have 10 now.

J. O. Wood—I have good success out of doors; cold time cover with straw. Hives are double-walled. Use chaff for absorbent. Last winter out of 33 lost 8. When drifted over deep, should be shovelled out when it thaws. When covered with straw, must have upper ventilation.

Fayette Munger—I have kept bees for a number of years. Have used different kinds of hives. I like Beebe's the best. My bees are more easily taken care of in them, and I get more honey. I place them on a platform in my garden, about two feet from the ground. Last March I lost 2 swarms; did not give them sufficient ventilation.

Cook—March was the worst month we had last year. The warm, sunny days, followed by extreme cold nights, was bad for bees. At this time the air chamber and also the air space between the comb and hive is necessary.

O. E. Thayer—I keep my bees on a platform three or four inches from the ground. Let them cover with snow in winter, but when covered should have ventilation in top of hive. I would like to ask Mr. Munger why he raises his hive so high—two feet.

Munger—To keep the rain from spattering the hive.

Thayer—I like Beebe's hive the best of any that I have ever used. I place each hive on a plank separate.

Cook—We should always go behind the hive to work with them; never stand in front of them.

J. S. Thompson, Hamburgh, Erie Co., N. Y.—Have experimented upon the best mode of wintering bees a good deal. I find no better way than out of doors; cellars and bee houses won't do. In answer to questions, Mr. L. remarked, that a swarm ought to weigh in the fall from 32 to 35 lbs. to winter. If lighter, must be fed, and the sooner they are fed the better, to give them time to cap over the cells. He gave as one cause of disease among bees in winter, that the moisture given off in the breath of the bee is condensed by coming in contact with the colder comb and sides of the hive, and the hive becomes wet and unhealthy. Have had trouble with foul brood among my bees. Think this disease, when once started, very contagious. Can be carried in the honey, if they rob. It is caused in different ways—poor hives, water gets into the brood. The first I had among mine, my hives got displaced by a whirlwind, tipped over, comb in some instances emptied upon the ground. I replaced them as well as I could. Some of the brood I also attempted to replace, but it had become so much injured that foul brood soon made its appearance. This disease followed my bees for a number of years. I tried many ways to prevent it, but none succeeded better than to take out all the pollen and brood in May or June. If a swarm is attacked a second time, take all out again. The cause of dysentery is too much ventilation.

Beebe—Quinby says that cutting out won't cure, and that honey will carry foul brood.

An old gentlemen here remarked that he had come a long ways to ask the convention one question—"How can I winter bees without losing swarms?"

Beebe—That's just what's the matter. That's what the doctor wants to know. (Laughter.) I have been engaged in bee-keeping for 16 years. Have tried a great many plans. Have tried the cellar; it won't do. Once built a bee house, but soon became satisfied that they are far from fulfilling the requirements of bees. Have tried all kind of hives, but found none that seemed to furnish all the necessary conditions with which bees must be surrounded to gather most honey, and also to preserve them through the winter. He then exhibited a hive which he had invented and used, and known as the Beebe hive.

The question was then taken up, "Is a young queen suitable to raise queens from? Will her daughters be hardy and prolific?

Mr. Beebe being called on, said that he had raised such queens that were "hearty and prolific."

Cook—I agree with Mr. Beebe. I can conceive of no reason why they should not be so.

Wood—Has such a queen (Italian); has raised four swarms this year from her—good ones.

Whitaker—I think such queens as good, or better, than others.

Mr. Cook explained his method of artificial swarming. His hives consist of two square hives, one above the other. He drives the queen to the upper hive with smoke, and then removes the hive containing her to another stand, and allows the lower hive to raise them a queen from the brood cells already furnished. The advantage claimed by thus dividing the swarms, instead of allowing them to "swarm" naturally, is that you loose none by running away. I have 80 swarms; with their swarming, one would have his hands full.

Beebe—From 5th to 10th of June, when clover is best for honey, I take three cards from centre of hive; put new hive on old stand. The workers that are about will come back to old stand. In sixteen days the swarm will have a new queen. To give an old stock a queen, cut out a queen cell with a square inch of comb, and place it in the comb of the swarm you wish to give a queen. In answer to questions, he added that an egg laid in a drone cell would never produce a queen or a worker—that drones were male bees; queens were the perfect female bees, and workers were undeveloped females. One impregnation of a queen lasts for a lifetime, proved by a pure Italian being sent off, will produce Italians during her lifetime. The average life of a queen is three to four years, workers about ninety days. Their wings often wear out. Have often seen holes in their wings.

The question of "feeding bees" next called up.

Cook—If bees have not honey enough, should be fed at once. Let them have time to cap over the cells. Take coffee sugar, add water, melt and skim. Sometimes add finely ground slippery elm; also glycerine oil to prevent crystallization. Swarms eat twenty pounds of honey in a winter.

Beebe—Never feed in winter—makes bees uneasy—but a little in spring. I give you my rule for preparing bee feed: Best A coffee sugar, 10 pounds; water 5 pounds; boil five to ten minutes, skim. In fall must be a little thicker than spring.

Mr. Beebe, in answer to questions, said that it costs bees as much labor to gather 1 pound of comb as 20 pounds of honey. He thought good, clean, white comb worth $5 per pound. Keep it till next year. If you have swarms to feed, do it now. In movable comb hives, I can take from the rich swarms and give to the poor ones easily. I think a natural swarm will make more honey than an artificial one. I have another way to make a swarm: move a hive in middle of day: Put a hive in its place. In it confine a queen twenty-four hours; the workers will come in and form a new swarm.

Munger—Last spring I noticed among my bees a swarm of mixed Italians. This season they have put out three new swarms. There are no Italians kept nearer than Casadaga, that I know of, which is about four miles from my house in a straight line. Do they ever mix so far as that?

Beebe—Bees can mix a distance of about three miles. They each go about three miles. The meeting of the queens and drones takes place in the air, and if they do not have their liberty, will not mate. The queen will continue to produce half-bred Italians as long as she lives. My Italians have sometimes been seen four miles from home.

Cook—I have known them to mix a distance of four to five miles in Ellington.

Upon the subject, "What is the best plan for introducing queens?" O. E. Thayer remarked that he had taken the black queen away twenty-six hours, then with honey from this hive covered the Italian queen, and dropped her in. A safe way, however, he said, was to place her in a cage made of wire gauze 1-16 inch meshes, and leave her in the hive till they get acquainted; they are surer to accept her.

Beebe gave his plan of doubling up swarms. Sprinkle both swarms with sweetened water, with a little peppermint essence added, and put them together. They will not fight, but will become one swarm. In his experience in shipping honey, he had found the crop from Chautauqua as good as any that goes to market from any locality. Bees in this county derive their honey principally from basswood, white clover, red raspberry blows, yellow rod, or yellow weed and corn.

Oliver Waterman, Stockton—Last fall I had twenty-four swarms lost, fifteen with dysentery—eight new ones, twenty on hand—have 60 pounds surplus honey—swarms all in good condition but two, must feed them. Always feed a little in spring. Winter on summer stands. I had three acres of sowed corn this year, my bees worked on it a great deal in August and first of September.

Motion was carried to re-instal the officers of last year for another term.

Next semi-annual meeting to be held in Fredonia, 3d Tuesday in April next.

Next annual meeting to be held at time and place of next Chautauqua county fair, on the second day of fair.

Mr. Beebe will prepare two series of questions for discussion, to be published in the Advertiser and Union for next meeting.

[For the American Bee Journal.]

Imprudence of Beekeepers.

In an article in the Bee Journal for July No., "Headed Imprudence of Bee-keeping," we find remarks that we take exceptions too. At first, we thought that the writer had written in that style for a sort of burlesque. But as we always take the side that we think is right, never leaving it for argument sake, thinking if we did so, that our influence might go in the wrong direction.

So we have undertaken to try and correct the gentleman, or some of his readers, in relation to the "Imprudence of Bee-keepers." (We think that beekeeper might be substituted.)

To investigate this subject properly, we must go back to primitive beekeeping, when the "Old Box Hive" was all that was thought necessary. When the "King Bee" ruled supreme, and the music of "Tin Pans" charmed the forthcoming swarm to listening quiet on some old "Mullain Stalk," when a man would never dare sell a "Gum," for fear of losing his luck, and must of a necessity steal one to start successfully. (That reminds us of our having one stole this summer, but somehow he did not have the luck to keep it.) At that time, would our "Imprudent Beekeeping Writer" been succesful in "hiding his light" under a box hive.

In those times, beekeepers had to kill their bees to get of them. (How different from last winter.) Some persons are somewhat Rip Van Winkle in their ideas, and give their views accordingly. Our friend does not tell us how we should do to be prudent; therefore, we must suppose that we must do directly opposite, from an imprudent one. To do this, every one must form himself into a secret society, and keep what little he knows locked up for safe keeping.

Compare the results of such a course with the beekeeping of the present day, it needs no argument to any one, who believes in progression, and those who do not, will go back where they need not fear "Competition."

Mr. Editor, Your correspondent seems to blame those who let their "light shine;" supposing a part is gas light, yet it helps to find the path of truth. We should be as willing to learn others, as we are to learn of others.

Mr. Greene is afraid of overstocking the country with "Beekeepers," the cause of which he gives by the many giving their experience, etc., causing "Multitudes to come over." In this he mistakes human nature. Let one beekeeper in each neighborhood be succesful, and yet be on the "sly," and he will make two converts where he would make one, by trying to induce others to join in the business.

He says, "Suppose fellow Beekeepers, that our numbers increased for the next ten or fifteen years, as they have for the last two years. "Where will be our market," yes, and suppose that a majority of them do all in their power to make converts by putting their "Exaggerated notes" into our journal, and pay their subscription too as they should. We think Mr. Editor, your acknowledment list would show a different footing.

What if we should produce honey enough to ruin the South and Indies, by superseding the sugar cane, what if France had to go back on her sugar beet, and sugar maple become a staple article of fire wood, would not the world be the better for it, should we not save something that is now wasted.

We have no statistics at hand to show our increase for the past two years, but we will venture to assert, that our numbers have not quadrupled, nor even doubled, but we will suppose that we doubled every year, at the end of fifteen years, we would not then overstock the market, but we believe that honey would be in better demand and at better prices then at present.

To accomplish this, we will reduce the price at first, and enable it to be introduced into every household. It will then become a staple article.

Cheese is not a necessary, but it has become a staple article, and its price has doubled in consequence.

At present, there are but few who supply their table with honey every day, but those who do, will testify, that it is the chepest, and best sauce, that can be had for the money. On the other hand, those who have it now and then, find its taste so palatable, that they forget while eating, that it costs money, but are reminded of it after finding how much they have eaten, and cannot afford it at such prices.

But every one is not going to keep bees, be it ever so remunerative. Some are too careless to succeed, others too careful of their feelings to be imposed upon by the imposing things. Some do not know enough, others do not care to know, while others know too much; it is often the case when asked to subscribe for the journal, they will say, "I know more now then I practice," Ignorance and prejudice are the real Moth and Foulbrood of the apiary.

Now as to overstocking the country with bees, we "can't" see it, for several reasons. First, if we gain for the next five years as we have for the past two years, we will have to figure thus: 100—50 per cent, for winter killing × 5 per cent., for swarms + 15 years, and we can see where we will stand.

Next if we overstock the market with honey, we cannot increase in swarms, then our comb must be built, and it all takes honey and vice versa. The demand will increase the supply of pasturage. Clover must take the place of thistles quack grass, etc., basswood groves will resusitate worn out lands, and help to keep our water wheels in motion, by an increase of moisture, the locust will help to build our fences. Fruit large and small might overstock the market, promote health, and beautify, and adorn our honey. With buckwheat we can subsoil, and with buckwheat cakes we can manage a little candid honey on a winter's morning.

By using the extractor in the proper season, we can enable the bees to double the quantity gathered.

In our own State, "Minnesota," where there is basswood, we are confident that a thousand colonies can be kept where only one is now kept.

Sufficient unto the day is the evil thereof. Don't let us stop our journal, nor let our Bee Conventions go by. But rather make two blades of grass grow, where only one grew before.

SESEAYE.

The B. S. Hive, and more about wintering bees.

MR. EDITOR: My attention has just been called to the article on page 74 (Oct. No.) of the Journal, from the pen of "Novice." Had a friend not written me in regard to it, I probably would have remained in blissful ignorance of such an article or that certain part of it relating to the Bay State hive.

It seems that a friend of Novice has one of the B. S. Hives in use that has not yielded any income to its owner for two seasons, but he does say that this stock of bees in this hive "was one of more than average strength," a fact going to show that it was the owner and not the hive that was in the fault. Let this be as it may, are not there hundreds of all kind of hives in the same fix all over the United States? And the fact that this one hive gave no surplus or swarms proves nothing, and no fair minded beekeeper will consider it a test, and I am surprised that "Novice" should select one hive and with the intention of having the readers of the Journal understand that that one hive is a sample of what the B. S. Hives are doing throughout the country as a general thing.

Have those who have given their experience through the Journal of the B. S. Hive made wrong statements, and I think not, their word so far as known is as good as that of "Novice's," I have letters received from persons, this fall, using the B. S hive, who say that all the honey they have obtained was taken from the Bay State hive, and I ask those same persons to send the same statements to the Journal that they sent me—there are thousands of hives, and "Novice's" favorite among them, that gave no surplus this nor last season, and Novice knows it as well as I do.

Had Novice six or more of the B. S. hives in use, with good stocks, all in good condition and four out of the lot failed to do anything, as did his friends, there might have been some reason for saying what Novice did on page 74.—The fact that "Novice" has none of them in use, and there is only one in his vicinity that he knows anything about, we hope, that his experience with that one may turn out to be worth no more to the public than his method for feeding sugar syrup to bees—I did not read that article, but I did read the one on page 91, (Oct. No.) from the pen of one who "spent the greater part of his life in the confectionery business." However, Novice has a good way of getting over such mistakes, and I have no doubt he will get over this one all right.

About the frames being too large in the B. S. hive, I will just remind the reader that those "large frames" are smaller than those used by Novice in his Langstroth hive, and will also say, that the frame I now use in the B. S. Hive, are not so large or deep as those in the hive Novice speaks of. I have just the best frame for the honey extractor that can be got up.

So long as "Novice" has the L. hive "on the brain" it can't be expected that he will speak well of any other kind, but the readers of the American Bee Journal know that there has been a great deal said against his favorite hive—as well as much in its favor—in fact most all prominent hives have had more or less said in their favor as well as against them—When a beekeeper has a hive that suits him he knows it, and he don't ask any one to tell him of it.

But the idea that too much has been said in favor of the B. S. Hive because one and only one that Novice knows anything about has not done well, should not have much weight as it proves nothing.

The American hive has very often got a "rap across the knuckels" from Novice, but those who have read the Journal for the past four years know well that there has been a great deal said in its favor.—I never had a good opinion of that hive, but I know from my correspondence, that there are thousands of them in use, and probably as many as of any patent hive invented. When we all think alike, then it will be easy enough to name the best hive, and not till then.

MORE ABOUT FEEDING AND WINTERING.

If those who fear that the sugar syrup feed to bees will crystallize, will add one pound of honey to ten pounds of syrup, they will have no trouble. I will guarantee but I never found any trouble when prepared by the directions I gave in the Oct. No. of American Bee Journal. I have fed a number of stocks entirely with sugar syrup—All hives that have straight combs should have winter passages made through them. I make them in this way. Bore an inch hole in the side of the hive, not quite half way down, then take a stick three-quarters of an inch square, long enough to go through all the combs, make one end sharp, and slowly work it through the combs to the opposite side of the hive, the bees will soon clean up the honey that runs, and leave a very clean round hole to pass through during the winter. This should be done on some warm day in October or November, when the bees can move out of the way of the stick. I have practiced this way for ten years and never have killed a queen or any bees in the operation. I have used a honey board made of corncobs, but prefer one made of woollen cloth when they can be had,—make a frame similar to a window-screen the size of the honey board and nail the cloth to it, then place it over the frames,—upward ventilations should be given, by making a few, (say 2) inch holes in the cap one front and one rear.

I shall winter all my bees on their summer stands, and I shall protect them from the cold north winds by a high board fence.

I am satisfied that bees winter better on the summer stands when protected as above, than they will in cellars, sometimes they winter well in cellars but not well enough to pay for the trouble of putting them in and taking them out, Mr. Eliphalet Eames of So. Framingham, Mass., put twenty stocks in the cellar and left twenty on the summer stands, those in the cellar came out in the best of order, they could not have wintered better anywhere. I was at his place in the June after, when the bees were at work and I could not pick out those wintered in the cellar from those wintered out in the air, in fact they were all good stocks, and Mr. E. was of the opinion that it did not pay to put them in the cellar.

This rather conflicts with what has been said in the Journal, but the reader can take it for what it is worth.

H. Alley,

Wenham, Mass., Oct., 1872.

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[For the American Bee Journal.]

In the Apiary—July 4th.

Who that cares to read the "Journal" would not find more music in the murmer of a hundred hives, than in the discharge of fire crackers and small canon. My patriotism is not noisy, and a well conducted apiary affords the best illustration of liberty without license that I know. Listen to these bees! For the last ten days, they have been holding high carnival among the lindens, and they sing out of pure joy at so much prosperity.

Golden belten Italians building straight combs in Langstroth hives, and filling the most exact and artistic of section boxes with sheets of the whitest honey. That I should call working within constitutional limits.

These hives, by the way, are in Lewiston, Ill., and are the property of Mr. Rufus Porter—an attentive reader of the "Bee Journal," as of all other journals upon the subject, and an independent thinker, who experiments and decides for himself.

The two hundred hives composing his apiary are about equally divided into two portions, five miles apart. Last year commencing with half this number, he realized seven thousand pounds of surplus honey—a fair result for a very dry season.

But these items are notes by the way only introducing the subject upon which I want a little light. Yesterday, I accompanied Mr. Porter in his walk among the bees storing up hints and suggestions for my own future use, as I watched the management of honey-boxes, liberation of queens, &c. Among the hives examined, were several containing queens imported from Roveredo, Canton, Grison, Italian Switzerland. Edward Uhl, director, through the agency of Geo. Neighbor & Sons, London—as per advertisement in various numbers of the Journal for 1871. These queens were introduced in October, and gave satisfaction up to the present time, when bees, nearly black, are becoming quite numerous in their colonies. There are no one or two banded bees, but the stocks are made of distinctly marked Italians, with an intermixture of these black bees, some of them reveal upon close examination, bands of a dark copper shade. Now what does this change of color signify? Are the queens sent out by Edward Uhl of Roveredo, really pure Italians or have these queens never breathed Roveredo air? Will not Mr. Adam Grimm or some one else, who has experience upon this subject, oblige us with some information through the Journal.

C. S. Rogers,

Elmwood, Ill., July 13, 1872.

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[For the American Bee Journal.]

Varieties.

Mr. Editor:—I presume that the numerous readers of your Journal think that all prominent bee men should find time to write at least once a month for the Journal. So I thought. But about all the leisure I could boast of the last three months is eight hours to sleep and rest my weary limbs, excepting, of course, the Sabbath, and I won't desecrate that day writing.

I promised in the August number, page 39, to tell you whether the *only* queen I had tried to fertilize in confinement, having a defective wing, had met a drone. No, she did not. Her brood was drone brood. Wait tells us he does succeed. We'll let him demonstrate it to us by taking up Friend Furman, who, without doubt, made the proposition in real earnest. I did not write that piece with a view to discourage any one. No, I would say go on and try all you can, for bigger men than I say you will succeed, and I hope that you will; but I will not risk the life of another queen in the attempt until I see it proven a perfect success.

Friend Birch, in present number, page 68, seems to differ with me on the above, but he does not, for I did not say the thing was impossible, only in fertilization tents, wire cloth contrivances, &c., &c. I still *repeat* it.

Friend Birch also wishes to know how to increase thirty swarms to one hundred, and obtain so much honey, if the bees build their own comb. I can better answer this by referring him to reports in the past journals, how I increased thirteen swarms in 1869, to fifty-two, and a part of this thirteen in box hives. I did not say I could do it without the use of empty comb, but I think I could in a first-rate season. I had very little old or empty comb this season, and I am very much surprised that I have done so well in such a poor season. But the truth is, unless bees can gather enough to winter on this fall from fall bloom, I will be compelled to feed back as much as I took away.

I sold my strained honey at 20 cts., and if I have to feed, it will be a syrup of twelve pounds coffee (A) sugar to a gallon of water, with a little cream of tartar, and heated to a boil. This makes a better feed than honey. I have never had a dysentery stand fed this way. My thirteen stands were fed in this way in 1868, that survived the winter when all other bees around me died. Mr. Burbank, of Lexington, fed the same way at the same time, and so saved his bees. This feed is almost twice as cheap as honey, and I consider it better for wintering on. I agree with Novice that it is almost a perfect remedy against dysentery.

This time last season queens would hardly lay at all; now I would be glad so stop their profuse laying. Every stand is amazingly full of young bees. The smart weed is very thick in bloom, and bees hard at work. Weather excessively hot.
R. M. Argo.

Lowell, Ky., Sept. 10, 1873.

[For the American Bee Journal.]

"Novice" and "The New Idea."

"Now Thomas," said the Sabbath school teacher to one of his scholars, "you have just read that Noah had three sons—Shem, Ham and Japheth; now tell me who was the father of Shem, Ham and Japheth?"

Tom scratched his head, and after studying the question, only answered, "Sir?"

"Why, Thomas! don't you know who was the father of Shem, Ham and Japheth, after what you have read?"

"No, sir—I think not."

"You certainly do know, Thomas, if you would only think. You know Mr. Jones, who lives over the street, has three sons—James, William and Henry Jones. Now, who is the father of James, William, and Henry Jones?"

"Mr. Jones," exclaimed Tom; "I guess I know that."

"Certainly, Thomas; that's right. Now this is exactly the same thing. You see, as you have been reading, that Noah had three sons—Shem, Ham and Japheth. Now you can tell me who was the father of Shem, Ham and Japheth?"

"O, certainly!" exclaimed Tom, eagerly. "Certainly, I know now; why, Mr. Jones."

Mr. Editor, don't this sound very much like the catechism that friend Gallup has been trying to put my particular friend "Novice" through? Says Novice, "Now, Mr. Gallup, are you sure there *is anything* you have been trying to get into our head after all?" Further on, he says, "In his last article we do gather this * * * * * that the queen prefers to keep her brood at the bottom of the comb in mid-summer." In other words, he knows now that Mr. Jones is the father of Noah's sons.

I did not start to argue the matter with "Novice," and I will only say that I think the difficulty with him is, that he has become so wedded to his two-story hobby, that he cannot see anything else. He cannot test the theory with that; and the very management he says he gave the Quinby hive (which does not embrace the New Idea), shows that he does not catch the idea. On page 11, *Progressive Bee Culture*, I say:

"In a hive only ten inches deep, the queen is necessarily confined to her first brood nest; for as soon as it is fully occupied and once filled, the comb all around it is filled with honey and bee bread; and if honey is very abundant in the flowers, they will soon begin to encroach on the brood-cells, filling them with honey, and to that extent extracting the queens brooding room.

"This is easily remedied, by at least once in every three weeks inserting in the centre of the brood-nest at least three empty sections (or frames) to be filled with new comb; to make room for which the brood-chamber should be separated in the middle, and pushed apart so as to admit them. The bees will rapidly fill them with comb, and the queen will occupy it with eggs. It is better to insert one section each week, than to put in all at once; but, when time is important, they can all be given at once, each time the brood-nest is filled."

"Novice" seems not to have so managed his Quinby hive; for, if I understand him, he just let the bees alone after they were put in it. He neither took my advice, nor followed Gallup's directions, "To move the brood apart and insert one empty comb right in the centre, and keep doing so at regular intervals, as required, &c.," so as to give the queen plenty of room all the time.

Now it seems to me, that if "Novice" had read this, he "certainly" could have told who was the father of Shem, Ham and Japheth.

I have no taste for personal controversy, such as is too frequently indulged in by your correspondents, nor have I any faith in my own or anybody's infallibility. I was taught, when a boy, to try and be charitable, particularly in matters of opinion and judgment, and have always tried to act up to the maxim, "If you cannot believe yourself wrong, at least believe everybody else equally sincere, and as likely to be right as yourself." And if "Novice" really thinks that Jones is the father of Shem, Ham and Japheth, he has my hearty permission to do so.

I would not write this now, had my name been left out by "Novice," or if he had used less harsh language, in what he says of *Progressive Bee Culture;* or if, in quoting from it, he had not attributed to me what I did not say: as, for instance, he says "Mr. Adair claims, by the same New Idea, a colony can be made to gather as much honey and build the comb for it, as they would with empty combs constantly furnished them."

Mr. Adair did not say so. The book in name, as well as substance, is based on the fact that we are *progressing*, not that we are perfect, in bee-culture. On the very first page I say: "The revolution that Dzierzon initiated when he constructed the movable bars, is still going on, and will only be complete when every healthy colony of bees is made to produce the maximum yield, &c.;" and further on, in answering the question, "How is it to be accomplished?" I answer in general terms by saying, "By a thorough understanding of the laws governing the actions of the honey-bee, and the adoption of such intelligent management as shall take advantage of those laws, &c."

The part he attempted to quote, I will copy in full from page 5:

"A perfectly balanced normal colony of bees consists only of a queen and workers; and *so long as that balance is maintained*, there is no necessity for any other members being added. Another fact of great importance is, that *so long as the balance is perfect, no* drone comb will be constructed by the bees, nor will any queen-cells be commenced. And we venture to assert another fact, *that in such a colony* the bees can generate wax and construct comb as rapidly as is needed for the brooding of the queen and the storing of honey. *With our present knowledge of the habits and instincts of the bees, we admit that such perfection is seldom reached in the management of bees; but we are sanguine in the belief that it can be attained. To do so, will require that we should be thoroughly, intimately and correctly informed of the natural laws governing all the operations of the hive, and of the offices performed by all its inmates.*"

Is "Novice" so thoroughly versed in bee-culture, so perfect in his management, as to be able to say that this is "error," or is such "a strong, positive, or harsh statement," that he, or others, can see the "fallacy of it at once?" Does he think he or any one has attained perfection? It would seem that he thinks so, or he would not make such a statement as the following:—"Our soundest thinkers have no time to theorize and argue the matter."

Is that so? Have not all the advancements that have been made in bee culture, as well as in the sciences generally, been made by men who took the time to "theorize and argue?" Did not Dzierzon both theorize and argue the matter when he framed his "Theory," that is the basis of "Novice's" success? Did not Huber and Langstroth use their powerful brains in "*theorizing*" and arguing the matter, or did they instinctively stumble on their great discoveries? Did Houska set the centrifugal force to expelling the honey from the comb without theorizing and arguing?

Why, Mr. Editor, our "soundest thinkers" are those who look for progress in everything. A man who sets himself up as "Sir Oracle," and says, "you can go no further," is, in my opinion, no "sound thinker." Nothing is perfect yet. The medical man who should content himself with what he learned from books ten years ago, would soon be without intelligent patients; and such a lawyer would have few clients. Chemistry, astronomy, meteorology, and all the physical sciences are continually unfolding new facts; and bee-culture, which has but lately made any advances at all, has not near attained its perfection.

"Novice" is the last man I should have suspected of such sentiments, and I cannot believe now that he is such an old fogy. The truth is, that Gallup had him a little worried, and he forgot himself. If he could only get that two-story concern out of his head, there would be plenty of room for the "New Idea."

Since writing the foregoing, I have received your September number, and must thank "Novice" for what he says so kindly of me; but think it unkind in him to say of *Progressive Bee Culture* that "It is so much an advertisement of a patent hive, that it seems it should be furnished gratuitously, as should all books, in our opinion, that are written in the interest of any patented articles." In answer to this, I wish to say that the book is not, strictly speaking, written as an advertisement of my patented hive, as the theory advanced therein is a general one, and, as stated in it, can be applied to the Langstroth, or similar hives. In fact, Mr. Gallup had arrived at similar results and conclusions by using a different hive. For further answer, I would ask him whether he knows of a book on bee-culture that does not advocate the use of some particular "patent hive," from Langstroth to the smallest pamphlet that has been published, unless it be Mr. Quinby's, which, while disclaiming any patent, is, when judged by "Novice's" rule, "an advertisement" for the Quinby non-patented hive, which he manufactures and sells. Mr. Langstroth's book, which "Novice" assists so much in selling, is, from beginning to end, in that sense nothing but a big advertisement, for pages of it are devoted to showing its superiority, and thirty cuts (more than one-third of all the book contains), are in illustration of his hive; and, to come nearer home, let "Novice" read his own articles in your Journal, and he will see that nearly every one of them is an advertisement of a hive, on the frames of which, he has lately taken out a patent for an improvement; if it is not, it is a puff of that "tea-kettle feeder" of his which he proposes to sell for $1; or is to tell about that "quilt" he has invented, which he will probably patent, and advertise in the next number of the Journal.

While this is a "positive," I hope "Novice" will not consider that I intend it for a "harsh statement;" for the hive is so intimately connected with the management of bees, that it would be almost impossible to treat on many points connected with it, without showing a preference for some form of hive.

D. L. ADAIR.

Hawesville, Ky.

[For the American Bee Journal.]

How to have Straight Combs.

In the October No. of the Journal "B" inquires how he can "have combs built straight, so that the frames can be readily removed from the hive." I will state how I accomplished that result, and if "B." will follow the same plan, he will have no more trouble with crooked combs. With a rip-saw I cut thin strips from common pine laths, such as the plasterers use. I lay these down on a work bench, and holding them, with one hand dress them smoothe with a smoothing plane. I now have strips about $\frac{3}{8}$ of an inch wide by $\frac{1}{8}$ of an inch thick. I cut them the proper length for comb guides, pierce them with a small brad awl, and, using $\frac{3}{4}$ inch brads, fasten them to the under side of the top bars of the frame. Of course one edge is down; and the bees must be very perverse, and very persevering in their perversity, if they deviate from the guides. By using the same kind of guide on the side bars of the frame, assurance will be made doubly sure. With this comb guide, it is not necessary to elevate the rear of the hive. Until the past season, I used the triangular comb guide, but it did not work satisfactorily. The bees would leave the edges, and run the centre of the combs, in some cases, along one side; but since I adopted the above described device, I have not had one crooked comb built. It has the merit of being easily made and put on, and the greater merit of being invariably successful.

Generally, I do not put guides on the side bars, as the bees are not apt to build combs crooked, if they get started straight; but the guides on the sides of the frame aid in holding the combs in their places while they are being handled, as the bees build over the guide, so that it fits into the comb as a tongue into a groove. Guides on the side bars should not be quite as wide as on the top bars.

M. Malim.

New Castle, Henry Co., Indiana.

Letter from Kansas.

Editor Journal:—We have seen nothing in the Journal from Kansas for a long time. It is probably unfortunate for the bee interests of our State that we have no *Novice* or *Gallup* to keep the bee-keeping fraternity informed that there is such a place.

In attending several fairs this fall, we had opportunity to gather some information in the bee line. We found that, excepting a few localities, this has been a very poor honey season, although bees have generally enough to winter on. In some localities a surplus was reported. We found quite an interest being awakened in bee-keeping. Even more than we expected. Mrs. Tupper's example will be followed by a good many women of Kansas. We saw several at our State Fair that said they cared nothing for a bee sting. When you meet such a person, whether male or female, if they will put their attention to the business, they will succeed. But where you meet a person that lives in mortal dread of a bee sting, it will do to advice them to try some other occupation.

At our late State Fair we had a separate class for things in the bee business. This was secured by a committee appointed by the Douglas County Beekeeper's Association.

This brought out quite a display in the beekeeper's line. Many were astonished at seeing so much honey, and wanted to know if it was all made in Kansas. But the wonder of all was the honey extractor. The crowd was not able to determine whether it was a churn or washing machine, and as it is allowable for to mention in the Journal meritorious articles, we would say right here that we had on exhibition a honey extractor of our own make that is far ahead of anything that we have seen or heard of in that line. As a matter of economy, we thought it best to send in this notice ourself, rather than to give some one an extractor to make it for us. The superiority of our machine is that it will sell readily for churn, bee-hive, washing machine, and machine for taking hairs out of butter. When it has proved to work well for all those purposes, we intend to get it patented, we will have the hole that the honey runs out patented, and if that has already been patented, we will have a combination of two holes, and possibly three. Now there need no one send a dollar for a description, as we cannot spend our time in writing descriptions. But when we get a patent, then we will have *valuable territory for sale.* But to tell the whole story, our wonderful machine did not take the premium. The reason was that we did not have the selecting of the awarding committee. That makes a "right smart" difference you know. We afterwards exhibited our extractor at a prominent fair in Missouri. Here the officers promised us practical bee men for committee. And here, what do you think, after examining three extractors and a two-story Twining bee-hive (which had by some mistake been entered as an extractor), the blue ribbon was tied to the hive as the best extractor. Here again, you see that it is all in the make of the committee. Poor Twining never dreamed of his hive being the best honey extractor, and labored while he lived to make people believe it the best moth trap in existence. But as he has now gone to his "long home," I would be out of place to mention his faults.

We now come to the last patent on bee-hives, a Kansas inventor has the honor. F. Grabbee, of North Topeka, has secured letters patent on what he calls "the Kansas bee-hive." Now, as this inventor intends to push things, it might be well to let the beekeepers of the country know something about this new candidate for public favor. As for ouself, we do not regard the patent as much of a "Grab." This Kansas hive is on the style of the Thomas hive, set up on the corner. It is a four side opener, this will certainly meet the requirements of the most fastidious side-opener advocate. The patentee thinks it a "big thing." The hive can be opened as easy as the peel can be taken off an orange, one quarter section at a time. But the patented feature is the most curious. He first applied for a three side opener, but was refused because it infringed on other patents. Then he makes application for a four side opener and obtained a patent, so it turns out that he has a patent on what he considered himself an unnecessary addition. The question is now who wants the quadruple side-opener patent? Only five dollars for farm-right, don't all speak at once; be sure and have the four sides to open, or you will not get the worth of your money. Now, Mr. Editor and beekeepers, we have not been bribed to give this notice of the Kansas hive.

At our State Fair there was one D. R. Reid, one of those wiseacres in the mysteries of bees, that seems to have inherited the wonderful six secrets of the *lamented* Twining. He seems to have made a great improvement on the Twining hive, and *daubed* it with a new name, "Common Sense Hive." We saw a notice in the Journal that this same man was at the Iowa State Fair last year. We were glad to see there was not as many fools to be caught as formerly. This man Reid is not very dangerous, his shallow pretensions show at once that he knows nothing practically of bee-culture, and although he manages to carry a few bees in his hat, he stands trembling in his boots lest the bees make a raid on his physiognomy.

Kansas State Beekeepers Association held a special meeting during our State Fair. At this meeting there was a committee of three appointed to confer with the State Board of Agriculture with a view of securing larger premiums and more space for exhibition at the next fair. There was also a resolution passed instructing our Congressmen to oppose, if necessary, any further extension of the Langstroth patent. The reason for this action was that Mr. L. had enjoyed his patent for the full limit of the law, and that the best territory for his patent was now owned by other parties, it would be giving them a privilege and a right for which they had never paid, and thereby work an injustice to the beekeepers of the country.*

NOAH CAMERON.

Lawrence, Kan., October 28, 1872.

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* The Beekeepers Association of Kansas labor under a mistake as to the property of Mr. Langstroth's patent, in case he should apply to Congress for an extension, and the same should be granted to him, that extension will return to his hands the entire patent, and, of course, all the territory.—ED.

Novice.

DEAR BEE JOURNAL :—The question has been asked why we in September number made such an attack on Mr. Alley and the Bay State hive, without provocation.

We should be very sorry, indeed, to have it appear that we ever in these pages attacked any hive, or any person, because they had displeased us; on the contrary, we have tried to keep steadily before us the good of the people in regard to improved bee-culture, and what we have said of "Bay State hive," "Eureka hive," "Thomas hive," "American hive," and even the "Quinby hive," and in short all hives that are prominently before the public (we beg pardon, we had almost forgotten friends Gallup and Adair in our enumeration), was not that we wished to injure their owners, but that we wished to add our mite of experience to the general fund, whether it favors any particular individual or not. We have had many letters making inquiries in regard to the Bay State hive, as, in fact, we have relating to most of the others mentioned above, and to save writing to so many, we give our views in the journal. Those of our readers who may care to, we ask to see pages 252 and 253, Vol. VI., of this Journal, and others, that leaves the impression very strong that the hive always gives a good quantity of surplus honey.

Now such is far from the case in our locality; for seasons in which bees work in boxes are the exceptions, and "poor seasons and no profits the rule."

In our opinion, every colony should yield at least fifty pounds surplus the *worst season*, and this can only be done with the extractor.

As to whether the Alley hive is adapted to the use of the extractor, we will leave the question to be answered by those using them. Most beekeepers can judge from an inspection of the frame on page 252, as above.

Were box honey our sole reliance, we really fear that the masses would abandon the pursuit in disgust, as they did ten years ago, and seem to have a strong disposition to do now. See last two or three numbers of Journal. *Give us facts from experience*, however stubborn they may be.

To conclude, whenever the large liberty our editor so generously allows, is made use of to extol patent hives, and to lead "unsuspecting *novices*" to infer that their *piles of honey boxes* are always filled, and that the bright results narrated by them or *their friends* are the rule and not exceptions, why shall not we give the other side of the picture, and tell how we have paid large prices for such hives, and watched in vain for a hundred pounds or more of box honey?

Did any one ever hear of these "*individual* and *township* rights men" telling you that very often the bees would *refuse* to *work* in the "cunning" boxes in spite of guide combs, etc.?

If it were worth while, we think, a report of failures could be called forth from the silent and suffering masses, that would show far differently from the *testimonials* we have presented us.

If any of "our wares," no matter where recommended, fail to answer the purpose, give us the results by all means. Let each and every one do all in his power to enable us to see each article recommended in bee-culture *on all sides*, weak points and all, so that we may avoid disappointment.

How many of us are there who have not paid out more *cash* in the pursuit of bee-culture than has ever been received?

So many that we fear this state of things cannot last long unless there be a change, and so we come back to our subject that we had intended to write on, viz.:

How to start an apiary and manage it with the smallest amount of capital, (*hard cash*) employed, and yet to have it yield a sure, permanent profit (*hard cash again*) all kinds of seasons, and with the least amount of labor of brain and muscles (which *should* amount to the same thing *cash*, or its equivalent).

With the above heading steadily in view, we propose to write for the coming year of 1873, never deviating, unless it be for the general good of fellow beekeepers; and in all cases it is our express wish that the editor correct us whenever he may think us at fault.

Our wholesale feeding was a success thus far. We arranged a waxed barrel of syrup, with a broad, flat tin tube attached to the bung, then the barrel was inverted at such a height as to allow the tube to pass in at the back of a two-story hive (of full blood Italians,) just between the upper and lower frames.

The lower side of this tube was made of perforated tin, and so we had a "barrel-teakettle feeder;" and the Italians *did* put the whole barrel of syrup in combs.

They also built some beautiful white comb and filled it with syrup; but it was syrup still and not honey, of course.

We think they were nearly two weeks in using it all, raised lots of brood, and a host of drones, which we have now (November 1st) in a queenless colony, with a young unfertile queen ten days old.

We will report next month if she becomes fertile.

If the experiment is worth anything to queen raisers, they are welcome to it. An empty story *waxed* with float, was kept underneath the two story with combs, in case of accident.

The only objection that we found, was the slight one of robbers, for not even an Italian stock seemed very prompt to repel them, when their supply inside seemed so exhaustless.

Of course combs were removed as soon as filled. We are now preparing to put our bees into winter quarters, and would like to ask some of the writers who seem to still keep hazarding conjectures of such length as to what may be the probable cause of bee dysentery, whether they ever knew of dysentery when bees were wintered on sugar syrup.

By consulting the back numbers of this Journal, a large number of cases can be found bearing directly on the point.

Once more we insist, "bees wintered on their natural stores sometimes have dysentery."

"Bees wintered on pure sugar syrup NEVER DO."

And dear readers when your bees the coming winter begin to show traces of the disease, remove them to a warm room, take away their combs entirely, give them clean dry ones, and feed sugar syrup, and they will speedily be well "says" NOVICE.

P. S.—The Murphy improved extractor advertised in this Journal has a stationary can, and deserves the credit of being *so far* a step in the right direction.

P. S. No. 2.—We would add that in all our various experiments in feeding, we have never been able to get the bees to take food with that avidity that they do in the open air.

The "teakettle" comes nearest it, and Italians far outstrip the natives, but after storing twenty-five or fifty pounds, if a new set of combs be given them, they are much slower in filling them, and seem to prefer a turn in the open air to indoors work.

Full blood Italians in warm weather, will frequently take down twenty-five or thirty pounds in half a day, but hybrids and natives sometimes require a day or more.

To sum up, we now regard teakettle feeding as the quickest and most economical plan of any yet devised.

[For the American Bee Journal.]

Bees at Kleinburg.

MR. EDITOR:—The honey season for '72 is done some time since, and proved a very poor one for the bees that come through the winter. I lost all that I left on the summer stands, and every one well boxed up, but the cause of my loss being that they were, the most of the number, too weak. I didn't examine very closely, only went by the weight, principally; that, I never do again; in future, I will not winter any more outside, without I know that they are very strong. Six very weak ones, not one-quarter of a stock, I took into the cellar; the best out of the six, upon which I counted to come through the winter, if any would, died, and I believe now that it was the cause of the honey they wintered on, gathered 13 pounds the first week in September, whether from honey dew, or not, I cannot say, but had all well sealed over. I removed them to the cellar the 10th of November, before we had any hard freezing weather, and were all nice and dry, when in December, I went looking over them, I found them all apparently doing well, but this one, which in the short space of a month had already about a quart of dead bees, but not a particle of sign of dysentery, no bad smell about them; I had them ventilated the same as the others, no dampness about whatever; they kept dwindling away in that proportion till February, when only about a pint of them were alive; then they began to be noisy and showed signs of dysentery, and in two days every one of the bees of this stock were gone the way of all *beeing*. Now, you, or some others will say, they must have been all old bees. Not at all; for I formed it the 5th of August, being a very strong stock, having brood to the fullest extent, and moved it to a new stand and gave them a young fertile queen, and kept them breeding till late in September. The other five were made the same way, only I took four frames of brood and bees adhering to it, and gave them a fertile young queen and two out of the five were, made by simply dividing combs and bees of a not very strong stock, and the last named two came out the best, and proved my best all summer, and when putting them in the cellar, I didn't think they would live through half the winter, and so spring found me with five stocks that would scarcely have made a decent one, and they only began to breed the first week in April. The cause of this late commencement of brooding, I believe was in having ventilated too freely; I had the whole front entrance open one inch high, twelve long, two one inch holes bored in the rear, and honey board half inch raised. The winter before last I had one stock formed in the same way, and no stronger than the weakest of any of these six, but the ventilation the temperature in my cellar ranged all winter from 41 to 44) on the top being only $\frac{1}{8}$ of an inch raised instead of $\frac{1}{2}$ inch, and they came not only through with as many bees as I put away, but double as strong. The first week in March, '71, they had their first flight, and I found them having three cards of brood; with this one I made my experiment, and found to work so well, hence, I concluded to make my increase in that way last year, and I have done so this year again, but this year I have them all strong; yet, not so strong that I would venture on their summer stands, but for the place (cellar) I mean to keep them, and the advantage in making stocks this way, is that I can keep my stocks strong through the honey season, and when the best is over, divide them, but I will not advise doing in that way and time dividing, unless one can provide a frost proof reservoir. I have this year found it to be a very poor season for honey in the early part; my bees have just gathered enough to keep up breeding, there being no white clover, and the bees had to wait till basswood, that scarcely ever failing resource, came in, which began about the 11th of July, when I began to have pleasure, to not see 1872, upon which I calculated to make ———, well, excuse me, I will not say if how much, but just having resolved to be satisfied with any or nothing, I could scarcely arouse myself quick enough to the apprehension of a stream (not the Mexican gulf), but a stream of honey; for such a bustle, the bees forgetting all about to be civilly going and coming, as I was seeing them all summer long, but not so now, for those coming out, appear so light that you would scarcely have time to notice it at all, and those going in, and that speedy too, I can assure you, but they being twice the size. Seeing that there is some such difference, going in large and coming out small, there must assuredly something have been left in their domicile, and I was not disappointed about it neither, for every three days my slinger had to do business; but from beginning to end, say from the 11th to the 21st, with fine clear weather, this great flow lasted, and the result per stock is, as near as I can make it, of 90 pounds from some, and 120 each, from one black and one Italian, the last two named being by far the strongest—making the total, 500 pounds of excellent honey, besides, increased my stocks to thirteen. Now, this may be a comparatively small affair, but I am well satisfied, for I think I have made far more than I expected, notwithstanding the great things we will have this year, so we dreamed last year; but, now, instead of waxing hot for next year, if Providence should spare our life and the bees, I am only thinking that there will be no honey at all. This year I have been able to demonstrate to my neighbors (old fogy beekeepers) that bee on the brain is not such conceited humbug after all, for I don't know of scarcely one that has got any honey or swarms, and some of those sturdy fellows, that have been playing tit for tat with me in the past. But my success so far this year, as well as last year, is making them look terribly down in the mouth; remember, it is only four years, since I began learning about bees, and like the majority that engages in it, will have nothing but bad luck, and but for want of perseverance, a great many more would eventually succeed well.

Now, Mr. Editor, when I commenced this letter, I did not expect to have written half of what I have done, and I am now getting like as if I wanted to have a long *say*, but will try, with your kind permission, not to say much. As regards hives, double hives, &c., I have tried many ways and many plans, all of which, I do not wish to burden you with of saying anything about, except of a few devices. My standard hives now are, and I hope I shall have no need of adopting any other shape, to gain success. My hives are inside, 17½ inches long, 12 inches wide, and 12¼ inches high; my frames, therefore, are 16½ inches long, 11¼ inches high, loose bottom and top, bottom fastened with hooks, one on each side, so that I can put one on top of the other, for second story; this second story business I have tried till I got enough of it, and the bees too, I believe; it is, therefore, on the wall. I had them side opening, and fixed so for the purpose, and only for that purpose, to join two together and have a double hive; this is the way I managed a year ago, but there comes up a seemingly interesting controversy between two of the "great lights." Novice, No. 1. I will not accord him being No. 2—and Gallup No. 1, ditto. The former I have always looked upon as good and candid authority, and acknowledge my many thanks to him for what I have learned by his writing, and such confidence I placed in his advocation on the double story system that I thought I could see a great desideratum in it; and, forthwith, without making first a single trial, I converted all my side-openers into permanent sides, and having loose bottoms instead of fixed ones; so far as it being a single hive, I will certainly not regret the trouble and extra expense in having made the alteration; but, oh! such perplexity and trouble I have had when all in order; I really want no more such experience on that head. About the 10th of June, when with us there is usually the white clover abundantly, and generally, honey in abundance. I raised on some stocks, one, two, and three cards of unsealed brood, from the lower story to the upper, leaving the queen below; the tops of frames from the lower story are three-quarters of an inch from the bottom of the upper story frames, no honey board between. Now for the result. In the upper story, I placed four drone combs and four worker combs, putting worker in the centre; when, on examining, after existing in that way eight or ten days, I found three of the five queens breeding in the top story; in one hive I placed the combs promiscuously, and in that the queen filled the combs with eggs right along; this sort of business I did not fancy, so I thought as she had now spent over a week up stairs, and am sure she did not go up and again down, until I put her down, and expected she would find empty cells enough now to keep her busy below, but the next day I found her back again; well, I thought, but now, this can't work. I lifted off the upper story and examined the lower, and found nearly all the cells in the brooding space with bee bread, and more or less honey; there was really no room for her to deposit her eggs. Now, I think this proves that the queen prefering to raise brood near the bottom, cannot be the case, for three out of the five insisted upon being in the upper story; so I went and reversed it, put the upper story below and the under one above, with the exception of the drone comb, which I kept above; in a few days one of three made her way again above. At this time I began to see that I should be subject to an endless lot of trouble, never knowing the condition of the hive after a few days, for to try to control a stock of bees, to keep them in the order I expected by this method; for I thought that it was no great trouble to lift one, two, or three cards of brood from below to the upper story, and those empty, or nearly so, from above to below, but there are some that object to having the queen breeding in the upper story. But our friend Novice, No. 1, says: "and if the queen goes into the upper story, all the better." Well, I thought so too, but I expected that she would probably only occupy the central combs, leaving about two combs on the outside, above and below, or nearly so, making eight combs to occupy with brood, and the other eight for bees to store honey; but not so, all the combs, sixteen in number, in two of the five hives, the queen traversed, and used them for breeding. I suppose you think that I had some such queens that Mr. Furman understood Gallup to have; but no, for the brood, if condensed, would all go on seven combs. Now, in adopting this plan of the double story, I expected to avoid taking such combs as contained brood, for I am certain that taking combs, with brood all nicely sealed over, is more dangerous to the brood, when slinging out the honey, than when in its larvæ state; for I found, when in its last named state, it effects it only when either moved from its food bed, or thrown out altogether, which may easily be avoided by slow turning; but this is, in my opinion, such slow-poke work, that it is, at best, more unnecessary trouble than it is worth, and this year I had enough of that, taking up a comb heavy with honey, and perhaps no brood in it, the next one also heavy, but unless you examine close, you will overlook a patch, perhaps four inches square, or less, with larvæ in it; now, you will have to turn slow of course, and make it slow from beginning to end, and to say nothing of lifting off an upper story every time is, well, I am so sick of it, and more so, when thinking of having some fifty to do that way, as I am hoping to succeed in seeing that number yet in my yard some day; but I really should be contented with having no more than I possessed during the present honey harvest, for they took up all my patience I had to spare. What, then, with fifty?

But, now, just you listen a little to my no less good friend than friend Novice, I mean friend Gallup. I think his pet arrangement of spreading out the combs horizontally, has just relieved me of all that trouble again, I say again, because I managed five stocks in that way in 1871, therefore, I had my hives side-openers, to make two single hives answer for a double one, on the horizontal principle, and it worked very well; but one is, as it were, never satisfied till he jumps from the fryingpan into the fire and, *vice versa*. Though I am none the worse for that, it only proved something to me, that when theorizing about it, it was perfectly satisfactory, but when practicing it, the thing didn't result within expectation at all; and many more, I am sure, will adhere to the horizontal plan, after trying both ways; let the frame be what shape it will, it won't make a straw's difference. Now, by having the combs spread out, it is so easy to manage. You only take off the cover, and you have all your frames in sight; I have the contents of a single hive, moved into a hive of double the capacity of a single one, and placed in the centre, and place four empty combs on each side of the main stock, but without division boards; there is no need for any, except you wish to contract the space of the hive for certain purposes, but not for gathering honey; and if the honey is coming in pretty fast, in order to keep the bees from getting the swarming fever, spread the combs of the main brood chamber, except the three centre ones, and alternate brood comb, then an empty one; and every other slinging, empty the honey from the brood combs that is not sealed, but do not break any sealing, unless it takes in too much of the breeding space. I always calculate having some 25 or 30 pounds of sealed honey, as such honey is undoubtedly the very best for the bees to winter on, and you are always safe, if the honey should, through some cause or other, suddenly fail; and I have not been troubled yet with swarming, not even a queen cell started; that it checks swarming, if managed in that way; I do not think there is any better method; and as for storing the honey even, well the bees, of course, fill up the combs nearest the brood, and so work outward, and when honey comes in at the rate of 12 or 15 pounds per day, I always found the combs on the outside filled up as any of the others, and get every ounce as much honey, as with the top story way; it should be slung every three or four days. I have said above, that I was not in favor of taking honey from a comb that has its brood sealed over, and the fact is, that I lost any amount of bees in '71. When opening the hive in July, the fourth day after slinging the honey from it, for the purpose of going through the process again, I found patches on different combs of different sizes, uncapped brood, all with their white heads protruding, and finding such, more or less in all the hives, operated on before, I took it seriously to thought; what could have brought this about; and I, according to my observation, found it to be through the slinging process, and do it as careful nevertheless as you will, it seems to me, when the inmate of these cells, after being sealed over, arrives at a certain point of maturity, its tenderness is far greater and easier chilled, than when younger. I mean to try experiments on that another season; I have found the same thing again this year, where I took such combs of sealed brood. Now, Mr. Editor, you will perhaps ask, if the horizontal plan of placing the combs was more advantageous than simply, as some may think I was only imagining it to be managed easier than the top-story hive. I will say that I am able to control my stock, as to have the brood all compact, because the queen has her combs placed, when putting them in the double hive, just in the same way as they were in the single hive, and with the empty combs on the side of the others. Now, if she finds her brooding space too small, she will undoubtedly occupy some of these combs, but not go from one end to the other across all the combs, nor do the bees fill up these empty combs all over with bee-bread; the bees store their bee-bread always near the brood; but, as I found in the top-story process, the queen making her way up above, filling the combs with brood, and below, as the combs are getting emptied of young bees; the bees fill these cells with bee-bread, and of getting honey with that also. Now, to some individuals it makes, perhaps, no difference, whether the honey or brood is stored, but as in my case, having a good supply of drone combs, which are as good as any for storing in honey, and before you are aware of it, you will have the largest part of these combs stored with eggs; and, now, how are you going to do it to get rid of it? Well, I slung out the honey, and immersed the combs in cold spring water for an hour or two, and shook out the water, and there were no drones hatched, but this I can avoid entirely by the spreading out process. The queen never troubled me with her drone eggs, if she had enough of worker comb in the centre, and will not ramble all over the comb. I have no doubt by putting a honey board, perforated, between the lower and upper story, to keep the queen below, that a more satisfactory result may be achieved; but, how could there be anything superior over the spreading out the combs? I will also add that friend Gallup does not say how he places his entrance, as that is a great deal; for, if the combs run across the entrance, instead as I have mine, the combs run lengthways, with the entrance on the narrow end of the hive, the bees, if the entrance is by the side of the comb, the queen will occupy only those combs near the entrance, and as I once had it that way, the queen would go no further back in the hive than the fourth comb, having all brood on four, and stores on the other four combs, and bees will, and cannot winter safely in such a hive; I have found them starved to death with plenty in the hive.

Now, Mr. Editor, I think I have drawn my yarn quite long enough, and if you get to the end of this, without losing patience, you will have done all I will expect of you, and will say good-bye till some other time, soon.

Yours faithfully,
C. Wurster.

Ontario, Sept. 27, 1872.

[For the American Bee Journal.]

Extracted Honey.

Dear Journal.—My experience during the present season still leads me to believe that extracted honey must come down to a low price. I hope I may be mistaken in this prophecy. It may be that as people become acquainted with it, and the method of obtaining it, their fears of adulteration will gradually disappear, and extracted honey will become a staple article of trade. At present, I find it sells better in small country villages than in large towns or cities. I have shown cans of beautiful extracted honey in our large towns, and it was next to impossible to convince the purchasers that it was pure honey. It was called manufactured, doctored, &c.; and your humble Apiarian was looked upon as a veritable humbug, and I certainly believe, if extracted honey was offered for one-half the price of sugar, the honest beekeepers would be insulted by the epithets of doctors, humbug, &c. In small country villages, *manufactured* honey has not been sold extensively, as a consequence the buyer is not in fear of adulteration, and readily buys if his means permit.

LABELS.

I have used several styles of labels on my cans, and have learned by experience to use only those that have the heading, pure honey, printed plainly upon them. Mr. Muth, of Cincinnati, sends out the most elegant labels, but the words, machine extracted, printed thereon, spoils them for my use. The first labels I used were headed, pure extracted honey. I soon found extracted had a vague meaning to very many purchasers, and was interpreted into all sorts of ridiculous definitions, all tending strongly to humbug. The printers, who printed them, innocently asked if this new kind of extracted honey was any better than bee honey. Persons disposed to be sarcastic, would remark, that it looked very nice, and "I suppose you extract this honey right out of the posies yourself, what will become of the poor bees?" Another says, in answer to your explanation of the extractor, "Oh, yes! I see you set the hive, bees and all into the machine, and let them spin like lucifer, until the bees become so dizzy they have to let go of their honey, and out it runs. Oh! what a *wonderful* invention; what will they get up next?"

Now this is all very amusing; and if you find sensible people enough to purchase your honey you can enjoy it, and laugh at the folly of these would-be wise men. I therefore find that labels, headed pure honey, excites less comment than any other style. If honey is to be produced as lavishly in the future as some predict, people must become greater honey-lovers, or new uses must be found for honey, which is not improbable.

MY EXTRACTOR.

I do not propose to describe a new-fangled extractor, but wish to state how my comb supports, used in my extractors, are constructed. In a former communication, I explained the difficulties I had with a fine wire cloth support. I have this season used a support made with strips of tin, doubled lengthwise, and set in the frame perpendicularly, one inch apart, with no wire cloth about it. The spaces between the tins give the honey the utmost freedom to flow from the cells, and new comb is supported as well as old. If any of your readers are about to construct a machine, my advice is to throw aside all wire cloth, and substitute the tins. If the tins are required very long, it would be well to support them in the middle.

NOVICE.

"Novice" will please explain his metal corners. When these corners are attached to a frame, the projections are much too long for the rabbet. Have we got to cut them off? If so, why are they not made the right length at first? The rabbets are about one-fourth of an inch, the projections nearly an inch. Please explain.

Scientific.

[For Wagner's American Bee Journal.]

Broken pieces of Comb.

Mr. Editor:—It may not be uninteresting to your numerous readers, some extracts, on different subjects connected with bee-keeping, collected from different authors, written years ago. We give the name of the writer with the date of publication, and it has often occurred to us while poring over these old relics, that "history is continually repeating itself," for it is written, "there is nothing new under the sun."

"Swarming.——" It is a common practice with country people to ring a bell or pan when the bees swarm; fancying the noise hinders them from flying far, and causes them to settle sooner. I cannot say I ever found that this makes the least difference, &c. * * * * * * After hiving the bees, the swarm should be well shaded, whilst it remains on the ground, with the boughs of trees, &c., lest the too powerful heat of the sun should offend them, and cause them to rise a second time. * * * * Many people have imagined they can tell when bees are going to swarm by a peculiar noise the females make at that time; but this only happens before a cast, or second swarm, and never before the first. These calls (as they are commonly styled) may be heard very distinctly two or three days before the cast rises. * * * * The casts usually happen the ninth day after the first swarm, if bad weather does not prevent them coming out. Bromwich, 1783."

"Why Bees Swarm.

"The reason of their swarming is for want of room in the hive; for when they have bred so many that the hive will not contain them, then, after they have lain out a while in a large bunch at the mouth of the hive, in a fine warm day generally, they swarm; but as there is no general rule without an exception, so here you will sometimes find they will not swarm, &c., &c.

Warder, 1749."

No. of Bees in Swarm—Queen—Queen Cells.

The swarm without being a very strong one may consist of twenty thousand bees produced in about two months. * * * * A singular circumstance attending this prodigious fecundity of the queen, is, that she keeps in her body for several months, that impregnating matter which was given by the males, who were put to death without mercy in the latter end of the preceding summer. * * * * The bees depart from their usual style of building when they are to raise cells for bringing up such maggots as will become queens. These are of a longish oblong form, having one end bigger than the other, with their exterior surface full of little cavities. Wax which is employed with so geometrical a thriftiness in the raising of hexagonal cells, is expended with profusion in the cell which is to be the cradle of a royal maggot, &c.

Mills, 1766.

Situation of Hives.

Skreen them from the summer sun, because the heat of it is greater than the bees or their works can bear; and skreen them from the winter sun, the warmth of which will draw them from that lethargic state which is natural to bees. A certain degree of cold, and a greater degree of it than is commonly imagined, is favorable to bees in winter. * * * * Let your bees therefore be so placed, that the sun may not shine upon them at all in the winter to entice them abroad, when they can get nothing but an appetite, &c., &c. White, 1764.

Strong Swarms.

It is evident that a hive that has a great number of bees in autumn, stands a much better chance not to perish by the severity of the winter, than a hive that has not half the number of inhabitants; for which reason I would earnestly recommend it to my readers, never to kill a single working bee at any season of the year; but in autumn, to unite all the bees of those hives, from which the honey is taken, to those that are intended to be kept as stock hives. This will render them fit to defend themselves, both against the severity of the weather in winter and against robbers in spring; and will also greatly forward their labors as soon as the working season returns; for as has been already observed; it is of the greatest importance to have the hive always well stored with bees.

Bonner, 1795.

To Prevent Robber Bees.

Stop up such hive till evening; then discharge the strangers. Keep the stock close shut up the next day, which will give you a fair opportunity of engaging the robbers by themselves and effectually prevent further attempts. Yet, provided they should afterwards return, when your doors are again set open, disturb the true bees by a bunch of stinking madder fastened to the end of a little stick of convenient length, till they begin to show their resentment; then will you see them seize the robbing bees, &c., &c. * * * * * Should your hives thus attacked have but a few bees and little honey, it is better to take them, than stand a trial.

Thorley, 1744.

Driving Bees.

Remove the hive from which you would take the wax and honey, into a room, into which admit but little light, that it may at first appear to the bees as if it was late in the evening. Gently invert the hive, placing it between the frames of a chair, or other steady support, and cover it with an empty hive, keeping that side of the empty hive raised a little, which is next the window, to give the bees sufficient light to get up into it. While you hold the empty hive steadily supported on the edge of the full hive, between your side and your left arm, keep striking with the other hand all round the full hive from top to bottom, in the manner of beating a drum, so that the bees may be frightened by the continued noise from all quarters, and they will in consequence mount out of the full hive into the empty one. Repeat the strokes rather quick than strong round the hive, till all the bees are got out of it, which in general, will be in about five minutes. It is to be observed, that the fuller the hive is of bees, the sooner they will have left it. As soon as a number of them have got into the empty hive, it should be raised a little from the full one, that the bees may not continue to run from the one to the other, but rather keep ascending upon one another, &c. Wildman, 1770.

Proper Food for Weak Hives.

I am decidedly of opinion that bees fed in the autumn should have honey, in preference to any other kind of food. * * * * This is my reason for recommending honey only—indeed I have never seen bees so healthy as those fed on the simple mixture of honey and water. In Spring, other kinds of food may answer very well, as a small portion only is given at a time, and very little of it deposited in the comb, &c.
Payne, 1833.

Greatest Enemy to Bees.

Nothing is more prejudicial to bees than ignorant attention. Their most formidable enemies are, perhaps their possessor, &c., &c.
De Geliew, 1829.

Description of Queen Bee.

The queen bee is a *faire* and stately creature, longer by the half, and much bigger than a common honey bee, yet not so big as a drone, but somewhat longer. She differs from the common bee both in shape and color; her back is all over of a bright brown, her belly even from the top of her fangs to the tip of her train, is clear, beautiful and of a sad yellow, somewhat deeper than the richest gold; her head is more round than the little bees, &c., &c. * * * * Her wings are of the same size with an ordinary bee, and therefore in respect to her long body, they seem very short. * * * * I have provoked and forced them to sting by hard holding of them and putting their tails to my bare hand, but could never perceive them willing to put it forth. Nay, when I have forced it out, yet she would not enter it in my hand. In a word, the queen bee in her whole shape and color, is a goodly and beautiful creature.
Purchase, 1657."

Having extended these extracts to considerable length for a newspaper article, we will cut it short, observing, that although many errors appear in the works of the old writers on the bee, we find the grossest blunders and assumptions in those of more modern date, and it is to be deplored, that some of these publications have such a wide circulation, or were ever set in type. The ignorant and unobserving believing everything in book form, printed, to be true.
Murfreesboro, Tennessee. H.

[For the American Bee Journal.]

A Rapid Increase.

Mr. Editor.—I must record one of the most prolific cases of increase that I have ever heard of, especially in the north.

A neighbor living three miles north of me, on the open prairie, had lost all his bees last winter, but two stands. I saw them last winter in the old box hives, both hybrids, his black queens having mated with Italian drones. On the 3d day of June, one swarmed; the young swarm swarmed three times. I saw the young swarm after it was put in a hive. I offered the owner $6 for it. He would not take it. I saw his bees a few days ago, and he has to-day seventeen swarms of bees in hives, and three ran away to the woods, making in all twenty-one swarms, old and young. I examined them all, and out of the seventeen fifteen will winter. They have got plenty of bees and plenty of honey. One of the fifteen stands has got more bees than any of the swarms that I have that did not swarm. He put them all in old box hives. He did not get any honey.
R. Miller.
Melugin Grove, Lee Co., Ill., Sept. 9, 1872.

[For the American Bee Journal.]

An Explanation Desired.

Editor American Bee Journal:—I would like to have an explanation of the occurrences here detailed. October 3d or 4th, on a visit to the apiary of an acquaintance, he took a virgin queen out of a nucleus to show us, and found her covered by worker bees, apparently attacking her with murderous intent. He caged her, and again liberated her next day safely. October 5th, I took out a queen from a nucleus in my own apiary, and found her surrounded and attacked in the same way. This queen had been fertile and laying since September 15th, twenty days, at least. I caged her, and again liberated her next day. Having some sweetened nutmeg water for another purpose, I used it on her and her swarm, when I liberated her. She is still doing her duty. In the last case, the swarm was in good condition every way, only that it was small (only three frames). The question is, why were they attacked? Let some beekeeper answer satisfactorily.
H. W. S.
Cincinnati, Oct. 17, '72.

Snow is very hurtful, when it dissolves with the heat of the sun, for the bees with the heat will be rolled out of the hives, and they are no sooner forth, but they are dazled and blinded, and cannot find the way in again, but flying a while up and down, being weary, think to rest themselves on the snow, which they no sooner touch, but they are killed; be sure therefore at such times to shut them in. Purchase, 1657.

Bees at Fulton, Ill.

Editor Journal.—As the season is over for the work of the busy bees, I will try and give you a report of my season's operations. I had 30 colonies of bees this spring, saved out of 65 in the fall of 1871, and only about one-third of them in good condition, and the loss of bees in this section was not from thin or unsealed honey, as I never seen the honey thicker or as near all sealed up as it was in the fall of 1871.

I took all the honey from my bees this spring with the extractor, as soon as the weather was warm enough, and in doing so, took out all the drone comb, and took cards of worker comb and put in the place of them, and fed most of the honey back to the bees as they wanted it to keep up as rapid breeding as possible, and commenced equalizing at same time, and commenced dividing as soon as there was any honey in the flowers, and using all the worker comb from the stocks. I lost and have increased to 60, counting three swarms that came to my yard and went into the hive themselves, when I was away from home. I did not have any natural swarms on account of dividing in the usual swarming season, but the stocks got so strong they began to swarm in the latter part of August, when the flowers began to yield honey the second time.

Yield of honey for the season of 1872.—The white clover did not yield any honey before the middle of June, to amount to anything; not enough to keep the bees breeding, without feeding. After middle of June until first week in July, white clover yielded moderately, but the most of it was used in breeding, or stored in brood chamber. I only got 300 lbs. of white clover honey with the extractor, and none in boxes. The bass wood, or linn, as it is called in some parts, did not yield any honey in this section this year. The rains in last July and first of August, started the heartsease and other flowers so, the bees began to store honey and swarm about the middle of August, and a great many hives did not have over 2 or 3 lbs. of honey in the hives by the time the second yield of honey commenced. The first honey the bees got in August was from a weed that grows on the bottom lands, and comes into bloom from 1st to 10th of August, and lasts about two weeks, and yields a honey almost as light as white clover, but not as pleasant a flavor. Part of my bees went four miles to work on this flower, and part of my bees I took to the flowers, and they done a great deal the best. I have taken in all this season, about 1800 lbs. of extracted honey and 250 lbs of box honey. There is very little box honey in this section this year, the bees have not seemed to want to build comb this year out of the brood department of the hive. I have not been able to get much comb built in frames in top stories, even where the honey board was removed and put on the top of top story. I have my top stories same size, as lower part of the hive, so I can take the honey board off from the main hive and put it on top of the top story, so I do not get the underside of my covers all stuck up with propolis.

My method of wintering on summer stands as soon as the middle of November, if not before, take the honey boards off the hives and have good, thoroughly dry, corn cobs cut just the length, so two will reach across the hive (I have a machine that cuts both ends of the cobs at the same time, as fast as you can handle a single cob at a time). Lay the cobs' butts and points, turn about, and that keeps them straight. After the frames or top of hive are all covered with cobs as close as you can lay them together, lay over top of cobs a common newspaper, at least two thicknesses, so as to stop the excess of upward ventilation, and close the entrance below so only a few bees can go in or out at a time, or perhaps it might be better to have a three-quarter inch hole bored in front end of hive below the portico (I use the Langstroth hive with top bar of frames seven-eighths wide, as the cobs would not do any good on the close fitting frames), this lets the moisture pass off, and the bees are kept dry, and my bees usually begin breeding about the first to middle of January, so as the old bees die off the young bees take their place, and are healthy and strong in the spring, but last year my bees stopped breeding in fore part of September, and did not commence until March or first of April, this spring, and I think this is the reason of the heavy loss in this section, as the loss was mostly in March and April, whether wintered indoors or out. R. R. M.

[For the American Bee Journal.]

Bees in New Hampshire.

Mr. Editor.—It is very interesting to read the reports of beekeepers from different parts of the country. I, therefore, thought it best, and it may be of interest, to you and others, to know how we get along away up here in Coos county, N. H., which I have found to be the wrong place to keep bees for profit or in large numbers.

I have paid out, first and last, for bees, hives, patent rights, bee vails, smokers, &c., &c., to the amount of $100. Had 36 swarms three years ago; have lost them all but ten, and they are in a bad condition, lacking honey. I have not had but one swarm come off this season, and that did not make me any surplus.

I got 50 lbs. of box honey mostly from one hive. It has been so wet they could not work.

Now, I am getting sick of the buisness here, and have wished I was in Iowa or some good place where I could make bees a speciality and profitable.

I have a lot of empty hives on hand, comb-frames, dry comb, and honey boxes of the K. P. Kidder pattern. So I shall winter what I can, and wait through another year, to see what next season will be, hoping for a good season, as I have always done.

William C. Merrill.

Colebrook, Coos Co., N. H.

When honey abounds, black bees will probably gather as much as Italians; when it is only to be got by extra labor, the Italians are sure to do much better than the blacks.

THE AMERICAN BEE JOURNAL.

Washington, December, 1872.

We trust that there will be a very large attendance of beekeepers at their National Convention, to be held at Indianapolis, on December 4th, 5th, and 6th. For railway arrangements see page 144. We hope to be able to furnish an early report of the proceedings.

We have received many letters from subscribers of the American Bee Journal acknowledging the great benefit they received from articles that have from time to time appeared in the Journal, but there are some, it seems, who have not received any benefit from the Bee Journals, but have actually met with misfortune through taking the papers. We give below the contents of a letter recently received :—

"I ask you to discontinue my paper. * * * * Bees seem to be of no value to me any longer. My bees nearly all died last winter. I have been taking the three principal Bee Journals of this country for the last three years, and am getting further back every year, hence this order."

The American Beekeepers' Guide, by E. Kretchmer, Cobury, Montgomery Co., Iowa. The above manual was received too late for notice in the Journal of last month. It contains, in a condensed form, a large amount of practical matter derived from the experience of both American and German beekeepers. It has, what so many works on bees have not, a very full index, so that the reader is enabled readily to find anything contained in the volume.

We have received a fine lithograph drawn on stone by P. Moran, entitled "Goat and Sheep." Single copies, in black and tint, can be had at 50 cents and chromos at $2.00 each, by addressing A. Lovell, care of N. W. Ayer & Son, 733 Sansom street, Philadelphia, Pa.

CORRESPONDENCE.

Last winter and spring bees in this locality nearly all died in the summer, they done very well. I commenced in the month of May, with seventeen hives, and I got in boxes of surplus honey four hundred pounds hundred weight, no one in this section of country can any year get as much surplus honey as I get; my plan is artificial swarming, I take one hive or swarm from two hives. John McLaughlin.
Tyronne, Ontario, Oct. 14, 1872.

Report from Minnesota.

Bees did not gather hardly honey enough to live on, until the first of July, since then we have had one continual honey harvest until frost came. Consequently we had but few swarms. Extracted three times, and have now supers full of sealed honey. C. C. Aldrich.

Mr. Editor :—I shall endeavor to give you and the readers of the American Bee Journal a sketch of my bee business for the last six months.

I commenced last winter with 60 swarms of bees, and lost 53 through dysentery. The entire community here is stripped of bees, one man lost 119 out of 125 ; another lost 30, all he had. I could figure up 500 stands of bees that died in two towns. I bought 70 stands last May, so now I have 107 stands. This has been the poorest season for bees that I have seen since I have been in the business. It has been very dry here for three years. I will not get over 4,000 pounds of honey in all. About 2,500 pounds box honey ; the rest extracted.

I find it a poor policy to rely on natural pasture altogether. R. Miller.
Melugin, Lee Co., Ill., Sept. 9, 1872.

I wish to say I am a recruit ; have strapped my knapsack on my back, subscribed for three Bee Journals, bought a Langstroth hive, and am marching on to victory. I have been trying the old method of bee warfare long enough, have been laid *hors du combat* in every engagement until I got the Langstroth Hive, and the first shot I take fifty pounds of box honey from one hive without a sting. A lady comes in and asks "what do you ask for box honey?" two dollars I replied. "I will take two boxes right." Here I am reminded I am partly in debt to the Journal for this success, and my subscription must be out, so here is your part of sales, Mr. Editor. Give us another year and consider me in for the war, for I propose to fight, and while bees and myself inhabit this county.
Ira Green.
Lapier, Mich., Oct. 31, 1872.

Bees have done very poor this season, but little honey has been gathered and of a poor quality, swarms were not quite as numerous as last year, one-half of these will not have honey enough to winter on, more than one half the bees perished in this section last winter.
Yours. &c., James Harvey.
Pitcher, Chenango Co., N. Y., Oct. 28, 1872.

I submit the following report.

Number of stocks last spring, mostly weak,	16
Number of stocks, this fall, ...	26
Net weight of box honey, . . .	lbs. 1,200
Net weight of bees and stores, Nov. 2d, 1872, ...	lbs. 1,255

D. P. Lane.
Koshkonog, Wis., Nov. 6, 1872.

Editor Journal.—Two years ago, while at Boonsboro, Iowa, I was informed by Lewis Davis, of that place, that the bees worked strong on watermelons. This year I planted quite a large patch, which yielded a great quantity of melons, and all through this month, when the weather was warm, the bees have worked on them strong. I cut them once in two, and the bees took most of the inside out. I would like to have beekeepers try it another year and report the result. W. H. Furman.
October 20, 1872.

[For the American Bee Journal.]

The November "Journal."

We were well pleased to receive our Journal for this month, several days earlier than usual, and hope you will, Mr. Editor, send it out so that it may reach us western people as near the first of each month as you can conveniently. The value of any periodical is greatly enhanced by being issued with regularity, while on the other hand, nothing so fills the mind of the subscriber with distrust and uncertainty, as to have paper come to hand all the way from the first to the last of the month. But, lest we be regarded as being "personal," we break right off here, and take up our "review." The first thing that attracts attention this month, is the translation of a dissertation upon the value of honey. Both as an article of diet and a remedy for certain "ills that human flesh is heir to." We can corroborate, from personal experience, much of what Karl Gatter says of the value of honey. Possessing, as it does, in a marked degree, diuretic properties, and alterative and mucilagenous qualties also, it is in very many cases much more efficacious as a medicine than pills and powders, being at the same time far pleasanter to the taste. But honey, like everything else, should be eaten in moderation; for some kinds of honey are found to disagree with many people. Pure liquid honey is one of the very best applications for cuts, sores, swellings, &c. In fact, we think that the American people but vaguely realize the very great value of "natures choicests sweets;" and we hope the day is not far distant when the mel-extractor will place honey in its most wholesome form, within the reach of all the people, from the Atlantic to the Pacific. And we verily believe, that if certain bee-hive venders would turn their attention to honey bee culture, instead of trying to obtain money from people for worthless moth trap contrivances, adding honey to their articles of diet, that they might in time be able to speak of their brother beekeepers a little more respectfully, using less abusive language—a consummation we devoutly hope to see accomplished.

The proceedings of the Michigan Beekeepers Association will, no doubt, be read with interest. They bring back to us some "personal recollections" of what we saw and heard at Kalamazoo. Many of our readers have, no doubt, had experience in sending box honey to market, and thereby know how pleasant (?) it is to learn that much of it had arrived in a sadly "delapidated condition." Mr. Bingham exhibted a box of honey, with two glass sides, holding about four and one-half pounds, we believe, which he said could be "safely shipped a thousand miles." The box was nearly square, and three small pieces of comb had been attached to the top previous to being put upon the hive, so as to have the combs built parallel to the glass. Where thick combs of honey are fastened to glass, they are almost sure to leak; for the glass expands and contracts with the variations in temperature. By inserting these small "guide combs," we can secure our combs, built of proper thickness and securely attached to the wooden sides. Moreover, such box honey looks better in market, and sells more readily at better figures; oftentimes making a considerable difference in the profits of the aparian. You all know that it has often been asserted that it is an impossibility to fertilize queens in confinement. Well; let us see. By invitation, we visited the apiary of Mr. A. C. Balch, a whole-souled, intelligent and practical aparian, who resides in this, the largest village in the United States, the lovely and picturesque Kalamazoo. He showed us some fine Italian stocks, the mothers of which he mated in his hands by force. But we hear some "doubting Thomas" ask, "How did he *know* this was so? How could he tell that the queen did afterwards leave the hive and mate with the drone?" Just the point, dear reader, we were about to consider, when you interrupted us. The way that Mr. Balch discovered that queens could be mated with any drone (not five, ten, twenty, or a hundred, *but just one*) desired, was something like this: He had a fine Italian queen that lacked one wing, and could not fly out to meet the drones, in the usual manner. Knowing that he could no more than lose her, he thought he would try the experiment of *forced fertalization.* He accordingly took her from the hive, caught a pure Italian drone, and mated them. He observed an increased size of the queen the moment she mated with the drone. Replacing her in the hive, she commenced laying, and proved to be a fine, prolific mother. Is this evidence conclusive? Lest some one, who is determined not to believe in the possibility of controlling pure fertilization, may still doubt, we will relate just one more incident, as related by Mr. Balch. He had a young queen that laid only non-hatching eggs. Thinking that the fault might be in the bees, he inserted a card of eggs and larvæ, taken from another hive, when they were hatched in due time. Repeating the experiment, with like results, he became satisfied that the queen was, in some way, defective. He then mated her with a selected drone. She then being about one month old, and her eggs hatched with uniformity afterwards. Does not this look, just a trifle, as though fertilization *might* be controlled? There is very much more we would like to say about what we saw and heard; some things about our good looking president, who abounds in sparkling wit and humor; the practical, sensible vice-president, the frank and genial secretary, and the—— Well, we don't believe that we have anything to say about the treasurer. But, as it is now nearly midnight, we must not longer dwell in "the village of shade and beauty, the bright Kalamazoo."

The story of "Scientific" will, probably, read to many as though it were a delineation of their own experience in wintering bees a year ago. Mr. Hazen gives us another column of figures to ponder over, as usual. We do not wonder that he is called by many the "figurative" aparian. We are pleased to hear that bees do so well away off on the plains of Colorado. At the time we visited the spot, where Greeley now stands, we could not help think, that even Hazen's non-swarmer would stand a poor chance of piling up its 200 in one season, or even the first century. Mr. Quimby's views will command the attention of all who wish to winter bees without loss. We ourselves examined large numbers of stock in western New York, and are satisfied that Mr. Quimby's conclusions are correct, so far as the eastern States are concerned. But here at the west the conditions were different. See report of Michigan Beekeepers' Association. In our own article, we see a mistake or two that needs correction. In the twelfth line from beginning, the word "practical" was omitted. It should have read, "and far more practical than they now are." In the twenty-first line from the end of last column, the word "had" should be "has," and would then read, "and if Novice has not," &c. But there, that old clock has just struck twelve, and we must "adjourn."

HERBERT A. BURCH.

South Haven, Mich.

[For the American Bee Journal.]

Questions Answered.

Mr. Root, in the Journal for September, writes: "May we, by the way, ask Mr. Jasper Hazen one question? In those localities near him, that were overstocked some seasons, did those bees die of starvation that had made so many hundred pounds box honey in a season? If so, they certainly did not starve *themselves;* their *greedy* owners starved them. On the other hand, if they died of starvation, without furnishing any surplus honey at all, there seems to be a disagreeable feature of his hive and pile of boxes, that he has not mentioned in his report of astonishing yields of box honey. Will Mr. Hazen tell us more about these colonies dying of starvation because the locality was overstocked?"

Answer:—The apiary that has at three different times in nine or ten years, been reduced from thirty, or a little more, by starvation, to four or five, and again to three, and the last time to two colonies, was kept entirely in the chamber hive, with two thousand cubic inches or more in the breeding apartment, and boxes in the chamber of the hive of about twenty-five pounds capacity to each hive. They gave their keeper little or no surplus, and starved in the winter. Further, as a rule, my best swarms that have given me the largest amount of surplus, in *that pile of boxes* referred to, have generally been in as good preparation for winter, as any of my colonies. One that gave me 200 pounds of box honey in 1870, 143 lbs. in 1871, has in 1872 given but about 30 lbs. Desiring to secure swarms from that and one other of my best stocks, I left them exposed to the sun. The first gave two swarms and surplus named above. The other gave one large swarm and the product of surplus 70 lbs.

In the first case, in 1870 we had to remove most of our pile of boxes, and substitute empty ones. This hive is without frames, having simply bars, and is more simple in its construction than the one described by Mr. Root, *or Novice,* in the communication referred to.

But about the overstocking. If there is no danger of it, why does my friend wait for increase of forage before he puts his thousand colonies in the field? Why content himself with seventy-one?

Mr. Langstroth thinks there is no danger of overstocking. He informs his readers of apiaries of 5,000 in Russia and Hungary; 2,000 colonies to the square mile in East Friesland. Kingdom of Hanover, 141 colonies; the island of Corsica, 52 colonies; Bohemia, 8 colonies, per square mile. On page 300 he speaks of land so unsuitable for beekeeping as to render it unprofitable to keep them at all. Is it not probable that our country embraces every variety of honey producing fields, from the most productive to those utterly barren, "where it would be unprofitable to keep them at all?"

Would it be safe to put the 5,000 apiary of Russia upon the field of East Friesland? Would it answer to put the 2,000 of East Friesland upon each square mile in the Kingdom of Hanover? Would it be safe to put the 141 colonies of the Kingdom of Hanover upon each square mile of Corsica? Or the 52 per square mile in Corsica, upon each square mile in Bohemia? Or the 8 colonies of Bohemia upon such tracts in our country so barren as to render it unprofitable to keep them at all? Or for Mr. Root to place 1,000 in his field before his bass wood trees have grown?

I have endeavored to answer the question proposed by Mr. Root, and propose a few for his consideration.

JASPER HAZEN.

Albany, N. Y.

[For the American Bee Journal.]

A Queer Trait in Bees.

About the 1st of August, 1872, I noticed some dark, fine gratings before a hive. The next day I opened the hive and found, to my surprise, that the bees had cut out one comb two-thirds of full size, and one-half of another comb. Before the bees stopped they cut out two combs over two-thirds of each comb and built new comb in its place. It was very old comb. There were no moths in the hive. It was an Italian swarm. There was no brood in the combs. This is something that I never saw before.

R. MILLER.

Maliegin Grove, Lee Co., Ill.

Spiders.

Most aparians have considered the spider the common enemy of the bee. That they make their webs in unwelcome places about an apiary, and now and then entangle a bee, is true, and the web is easily brushed away, and its maker destroyed, *but* the writer has found that inside of a Langstroth hive (i. e. where the boxes are put on) the spider is a real benefit. A little observation will show that no moth miller escapes them, and though the spider cannot get into the innermost hive, he is a complete exterminator of all intruders. Let him live.

D. C. MILLETT.

Holmesburg, Pa.

[For the American Bee Journal.]

Fertilization in Confinement.

As there has been a good deal said about "Fertilization in Confinement," *pro* and *con*, in the different bee journals and agricultural papers, it may not be out of place for me to put in a word.

In the first place, I will say that it is an *unmitigated humbug*, concocted by a few aspiring Italian queen bee raisers, in order to sell their queens, as superior to queens raised by those who do not understand the art of humbugery, and those who did not wish to practice the art of deceit.

When it was first started, many of the very best apiarians, with hopes that there might be some truth in it, and that it would become a success, tried it until their patience became worn out, and they gave up all hopes. Among them, are Rev. L. L. L., R. M. Argo, Doct. Bohrer, E. Gallup, and many others that might be named, and most of them thought they had succeeded. A few of them still insist that it is a success, notwithstanding the rejection of all the offers that have been made for them to give it a fair trial, and agreements to come to my apiary and fertilize fifty queens in confinement, for $10 each, and I have since offered $2,500 for one hundred, and I am still willing to give $100 for each queen they make a success in my apiary next season. Among those that insist on its being a success, is one that is called a prominent apiarian of this State (but I would say that he or *she* is a successful Langstroth copiest), but I suppose they think it being well stuck to, is as good as though it was the truth. It would not be consistent with themselves unless they did, and they have gone so far as to say that I did not tell the truth, in saying that they agreed at the Cleveland Convention to come to my apiary and learn me the fine art for the small sum of $500. So I will give the report as given by the reporter, a believer in fertilization in confinement, and as published by the publishing committee:

When discussing the fertilization question, "Report says," W. H. Furman, of Cedar Rapids, Iowa, said he would pay $500 to any person who would come to his apiary and fertilize fifty queens in confinement, and $100 for each one he was permitted to see so fertilized. Mr. Waite and Mr. Mitchell would give him all he wanted at that price; and as I repeated the offer the next day, the report says, as several members were willing to accept the challenge, no doubt but a decided test will be had. But they have failed to come to time, and they never will, any more than Greeley will be President.

The question is often asked, what is the meaning of this fertilization in confinement? It is as I said before, a humbug. But they claim it is confining the queen so she cannot fly out, and select such drones as you may desire, and confining them in the same place, so as to mate with the queen, but while so doing they leave the entrance so the workers can fly out, but as many of the young queens are small enough to go where the workers can, the more small queens you have the better your success, and there lies all the secret; and the failures are where the queen is too large to pass the same entrance that the workers do; and, therefore, does not become mated, and after a certain length of time she will not become mated, if she has a chance to fly. If you wish to buy a poorer quality of queens, buy of those who advocate the non-flying fertilization, and you will be sure to get all the smallest and poorest. Others ask, *why* will they not mate in confinement? I think it was so ordained that the young queen should mate on the wing, so she would be able to lead off a swarm, when she became the mother bee; otherwise, any of the imperfect queens would become mated in the hive, and would not be able to lead off the swarm; and there are a great many such. And again, they would be likely to breed in and in too much, and they would become very inferior to what they now are. W. H. Furman.

Cedar Rapids, Iowa.

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N. A. Bee-keepers' Association.

The next session of this Society will be held in Indianapolis, December 4th, 5th, and 6th next.

RAILROAD AND HOTEL ARRANGEMENTS.

The following roads will return members of the Association *free*, some by round trip tickets, some on the Secretary's certificate that full fare has been paid coming:

Indianapolis, Bloomington and Western Railway. Runs from Peoria to Indianapolis. On Secretary's certificate.

Ft. Wayne, Muncy and Cincinnati R. R. Runs from Ft. Wayne to Connersville. Round trip tickets will be sold at all stations.

Cincinnati and Indianapolis Junction R. R. Runs from Cincinnati to Indianapolis. Round trip tickets will be sold at all stations.

Indianapolis, Cincinnati and Lafayette R. R. Runs from Cincinnati to Lafayette. Round trip tickets can be had at Cincinnati, Lawrenceburg, Greensburgh, Shelbyville, Thorntown, Colfax, Lafayette, Lebanon and Zionsville.

The following railroads will return members at one-fifth fare:

Cleveland, Columbus, Cincinnati and Indianapolis R. R. Runs from Cleveland to Indianapolis—also from Columbus to Indianapolis. Return tickets will be sold to members at the office in Indianapolis, at one-fifth fare, on presentation of the Secretary's certificate.

St. Louis, Vandalia, Terre Haute and Indianapolis R. R. Runs from St. Louis to Indianapolis. Returns members at one-fifth fare, on presentation of Secretary's certificate that full fare has been paid one way. These certificates must be presented to W. Ogden, Esq., at the office of the Gen. Superintendent at Indianapolis.

The following hotels will keep members at reduced rates:

Porter House—W. H. Porter, Proprietor; S. E. corner of Illinois and Maryland streets. Board $1.50 per day. To members $1.00.

Revere House—N. D. Keneaster, proprietor; N. Illinois street, opposite Bates House. Board $2.00 per day. To members $1.50.

Palmer House—Jeff. K. Scott & Co., proprietors; S. E. corner Washington and Illinois streets. Board $2.50 per day. To members $2.00.

AMERICAN BEE JOURNAL.

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NATIONAL BEEKEEPERS' ASSOCIATION.

Transactions of the North American Beekeepers' Society, at their Second Annual Session, held at the city of Indianapolis, on Wednesday, Thursday and Friday, December 4-6, 1872.

Pursuant to adjournment, the North American Beekeepers' Society met in the room of the Supreme Court of the State of Indiana, at Indianapolis, at 9.30 A. M., on Wednesday, the fourth day of December, 1872.

The society was called to order by Rev. W. Fletcher Clarke, Vice President, from the Province of Ontario, Canada, who stated that the President, Mr. Quinby, had written to him that he could not be present, and requested him to take the chair. Having complied with the President's request he asked of the society, "What is your pleasure?"

Dr. G. Bohrer of Indiana, suggested the propriety of initiating the proceedings with prayer, and if there was no objection, he would request Vice President Clarke to do so. A general hearty assent being given to the proposal, prayer was accordingly offered.

The President said it was customary, at the beginning of the session of such associations, for the presiding officer to make some introductory remarks, and as Mr. Quinby had requested him to take his place, he had prepared an opening address, which, if agreeable to the society, he would now proceed to deliver. He then went on to say:

FELLOW BEEKEEPERS—In the absence of our much esteemed president (Mr. Quinby), which I am sure we all deeply regret, it devolves on me, at his request, to call this meeting to order and inaugurate its proceedings with some opening remarks. The quick flight of a twelvemonth has brought us together in our first annual meeting since the consolidation of the two beekeepers' associations into one great continental society. This event, happily consummated at Cleveland a year ago, we are here to commemorate, and to follow up with further indications of apiarian progress. It is very fitting that we should meet on the present occasion in this city, where the initiatory organization was formed, and the plan of consolidation conceived and proposed; where, too, we received at the outset such tokens of appreciation from the citizens, the press, and the civic authorities, especially in the free use of the fine Senate chamber, in whose honorable seats even our lady beekeepers could feel for the time that they were not only *suffragists* but *legislators*, and now in this Supreme Court room, where we can feel that we have attained judicial elevation. From its peculiar and central position, the cordial spirit of its officers, editors, and people, and the number of such bodies that have seemed to come here as by some law of gravitation, Indianapolis deserves to be styled Convention City, and if it has not yet formally received that name, I propose that the beekeepers here assembled do so christen it forthwith.

It is my pleasant duty to greet you all with honeyed words of welcome. Though our society is not, in the technical—I had almost said the *cant* sense—either philanthropic or religious, yet there are features about it that tend to draw us together and forge the links of brotherhood and good fellowship. If he who makes two blades of grass grow where but one grew before, be—as is generally acknowledged—a benefactor of his race, so, also, must be he who causes two pounds of honey to be gathered where only one was gathered before; and in this view of it our society is most assuredly a benevolent one. And if the reverent, earnest study of nature in one of its most interesting departments be, as it undoubtedly is, a part of religion, then is our society a religious as well as benevolent one. We have so much in common with one another that we might not inappropriately adopt a familiar hymn couplet—

> "Our fears, our hopes, our aims are one,
> Our comforts and our cares."

There are so many disintegrating forces at work in society that anything which brings human beings together, and gives them a sense of unity and commonalty, is a great benefit. Our interest is a fascinating pursuit; the similarity of our tastes, endeavors and experiences, and the pleasant acquaintanceships formed and fostered at these meetings, cannot but beget the feeling so well embodied in the pithy Scotch motto—"We're brithers a'!" May this feeling be paramount to every other all through our proceedings. May all our discussions be carried on under its influence. Then, though we may have our differences of opinion—and it would be a dull, uninteresting time if we had not—these will not interfere with our good fellowship, nor lessen our enjoyment.

The course of bee-keeping, like that of true love, never did run smooth, and we meet after passing through a disastrous winter and a profitless summer. If "misery loves company," as I suppose it does, that gratification must be complete on the present occasion. The cause or causes of last winter's terrible mortality among bees will no doubt form one prominent subject of discussion at this meeting. We have all our theories, and it is well that we should compare them. For myself, partly perhaps from habits of theological thought, and partly, it may be, from a dash of superstition in my nature, I have adopted the old time verdict of coroners' juries, always resorted to in mysterious cases, "Died by visitation of God." The correspondents of our bee journals have suggested all manner of explanations to account for the fatality of last winter, but I frankly confess none that I have met with fully satisfy my own mind. It is one of the peculiarities, and to me one of the charms of our present life, that we find a draping of mystery, as it were, about everything with which we have to do. What a world of shadows it is! How light and shade are mingled—here the clearness of noon, there the dimness of twilight, and yonder, again, thick, black night. The fact that the temple of nature has its mysteries, proves it to be the dwelling of God.

We can more easily account for the unprofitable summer than for the fatal winter. Unfavorable weather, drought, want of honey in the flowers, fewness of honey-gatherers, and the like, sufficiently explain this. We must expect fluctuations in the honey harvest, even as there are fluctuations in every other harvest and in trade. We must judge this pursuit like every other—by its average of seasons, and not by any one exceptional season. Bee-keeping has been denounced as a delusion and a snare, in certain quarters, because of the discouraging character of the past summer and winter. In the same style, a very dismal story might now and then be got up in regard to farming in general. Though it is the basis of all human prosperity, it has its drawbacks, difficulties and failures. Farmers, too, are for the most part adepts at the grumbling business. The poet Cowper did not wrong them very much in his picture of tything time. The rector wants his dues, for parsons must live as well as other people, but his rural parishioners are loth to pay, and seek to move his pity:

> "One talks of heat and one of frost,
> And one of rain and hail,
> And one of pigs that he has lost
> By maggots at the tail."

Since our meeting at Cleveland, the interests of agriculture on this continent have sustained a great loss in the death of Samuel Wagner, whose name will go down to posterity inseparably linked with that of the *American Bee Journal*, so long and ably edited by him. Though a stranger to him personally, I am, nevertheless, qualified, from a lengthened acquaintance with his writings, to speak of him as an apiarian and an editor in terms of highest eulogy. Others who knew him better can, and no doubt will, give expression to their estimate of his worth and of his eminent services to apiculture; and this society will do itself, as well as him, honor by adopting, recording and publishing a resolution of regret at his removal and praise of his abilities, virtue, and life work. The beekeepers of this country will also feel, doubtless, that, as the most graceful act of respect and the most enduring monument to his memory, it behooves them to lend a hearty and generous patronage to the periodical established by him with so much earnest and self-sacrificing devotion to apiarian interests.

Every member of this society should strive to get up a beekeepers' club at home. These clubs should send representatives, to State, Provincial or Territorial organizations, and this continental body should, in due time, become representative and be composed of a certain number of delegates from each State, Province or Territory in North America, thus constituting a sort of high court of apiculture, to which the knottiest questions and hardest problems are submitted, and whence there shall emanate decisions and rulings of highest apiarian authority. Even now, to a certain extent, this society may properly regard itself as both deliberative and legislative, and there are some points on which it would be eminently beneficial to the bee-keeping public for it to record its convictions. We could unanimously pass a resolution to the effect that gum and box hives are behind the times—"played out," as the boys say, and if it were not for the glitter of the "almighty dollar," we could agree to say that given the movable frame, the bevelled edge and the air-space, nothing else is of much account in a hive, except as a gratification of taste and a play of fancy. Any hive containing frames of convenient size and safe to handle and subject to the operation of the *melipult*, is good enough for successful bee-keeping. The bees worked as successfully in the carcass of Samson's defunct lion, as they now do in the most artistic and highly decorated bee-palace of modern times, and their honey was just as sweet as that stored in the dantiest and prettiest of our fancy boxes. The bees are not particular. It is the convenience and gain of the beekeeper we have to consult. Hives don't differ much in their average profitableness, other things being equal, and it is an injury to bee-keeping as a business, to convey the idea that there is any magic in a hive, or to indulge the hope that by and by we shall get one so wonderful in all its appointments that it will need no looking after, except to sell the honey. It has become one of the reproaches of apiculture that "a hive to sell" is almost synonymous with "an axe to grind." It is, of course, impossible to do it, but this society could agree to adopt one hive. Many benefits would result from it. My apiary is nearly ruined by a variety of hives. One and another has sent me a hive to try until I have them of all sorts and sizes, and am bewildered which to adopt, tempted to pray, "Save me from my friends !" and should feel relieved if a law could be passed prohibiting me under heavy pains and penalties to use any but a certain one. It is with hives very much as with reaping and mowing machines. As an agricultural editor, I am often asked which machine is the best. I don't wonder at it, for if I were actually farming, I should be puzzled which to buy. But the truth is, they are all valuable. There are good, better, and best no doubt, but a big crop of hay or grain can be well harvested with any of them, and so can a big crop of honey be harvested with any good movable comb hive, if the bees are well managed, and the extractor wisely worked. One thing in regard to hives is assuredly important, and that is, that they be not too complicated and costly. Simplicity in hives, like simplicity in machinery, is a great desideratum, and they should be capable of construction by any farmer who is handy with tools. Your amateur beekeeper who does not look to his bees for support, may lay out money on costly and fanciful hives, but the million want and must have a cheap, common sense, practical hive, good enough if home made. As for moth, miller traps, winding passages, comb guides, and such things, they are like gold buttons to a working man's every-day coat, superfluities, if not follies. If we cannot wisely take action as to these things, we can at any rate ventilate them, and leave our discussions to exert their own influence on the public.

I am told "hive men" are very jealous and sensitive, and perhaps the remarks just made may bring a hornets' nest about my ears, but as I wear a veil and gloves of perfect good nature and kindly feeling toward all, I don't expect to be seriously hurt. Moreover, having come *from* a land of liberty *to* a land of liberty, I expect to exercise the right and enjoy the luxury, so much prized by Britons and Americans, of free speech. And what I expect for myself I concede to others. Let us have plain, outspoken, unvarnished talk, without ill feeling or discourteous personalities. Then we shall be "happy to meet, sorry to part, and glad to meet again."

Having stirred up the "hive men" a little, I propose to pay my respects for a few moments to the editors and correspondents of the bee journals. Would it not be well to pass a resolution that we will support no apiarian journal that indulges either in bad temper or bad grammar, or that calls or permits people to call others hard names? No one is fit, to be an editor who murders what we Britishers call "the Queen's English," or who has not the common sense and dignity to exclude from his columns all that is low, vulgar and abusive. There are many intelligent correspondents of periodicals, whose early education has been neglected, but who are nevertheless valuable contributors. Their ideas are good, and very often they choose forms of expression that are original and forcible. Now it is unfair to them to put their communications in the rude and crude form in which they are received. An expert editor can "fix up" these communications and make them presentable with less labor than it takes to get up original articles. And what a gratification it must be to a correspondent unskilled in the rules and graces of rhetoric to have his ideas put into good shape and made not only readable, but attractive. It is akin to the pleasure a poor man feels when his children receive notice and kindnesses from richer neighbors. Not only should communications be pruned into grammatical shape, but the knife should be remorselessly used in cutting out every harsh epithet, every angry word, every unkind expression, everything likely to stir up the worser part of human nature. It may be urged that being outside of all the patent right disputes, which have turned the peaceful arena of bee-keeping in the United States into a battle field, I am unable to understand and appreciate the provocations and temptations to calling hard names, and showing bad feeling. Perhaps there is force in this. But it is not so much the censor as the peace maker that I seek to act. I do not pronounce on the merits of any question, or take sides in any dispute. I would heal some places and pour oil on troubled waters. Do we not all believe in that sublime religion which insists on the gold rule, "Whatsoever ye would that men should do unto you, do you even so unto them," which commands us to "love our neighbor as ourselves," which forbids us to "render evil for evil," or "railing for railing," and which says, "if any man smite thee on the right cheek, turn to him the other also." While believing like Christians, let us not behave like heathens.

In conclusion, I could wish that I were qualified to point out to you some fitting topics for discussion at this meeting. There are many questions I should like to ask of fellow beekeepers who have older and wiser heads than mine, and whose experience in apiculture has been more extensive than mine. And as opportunity offers in our public sessions and private intercourse, I shall gratify my curiosity and display my ignorance. I supose we are all here as learners, but there are some amongst us who are better qualified as instructors than others, and those who occupy the advanced forms or the teachers' desk in the school of apiculture, are best fitted to guide our deliberations both as to the suggestion of topics and the treatment of them. President Quinby, in a letter which I received a few days ago, but which I have unfortunately mislaid, commissioned me to lay three subjects before you, one of which has escaped my recollection. The other two are, first: "Will right management of bees develop peacefulness of disposition, as we know wrong management developes the opposite—in other words, what is proper bee management? The second topic is that, which more than any other, is now pressing heavily on the hearts of all beekeepers in the land: What caused the disastrous losses of last winter, and how may the repetition of that sad experience be avoided in future?

I trust our present meeting will deepen our interest in apiculture, give a new impetus to this pursuit, unite us more heartily in friendly cooperation, strengthen and develop as a power for usefulness this North American Beekeepers' Society, and so hasten on the millenium of beekeeping, which a humble poet of your own has pictured in the following stanza:

"With all facilities for honey getting,
Grace of bees that will admit of petting;
Each household of an apiary possessed,
Bee-keeping followed with unflagging zest,
Honey and milk shall flow all countries through,
And 'home, sweet home,' obtain a meaning new."

On motion of Secretary King, of New York, the president appointed a committee to prepare an order of business, and also topics for discussion, with instructions to report at 2 P. M. The committee consisted of Seth Hoagland, of Pennsylvania, chairman, Dr. T. B. Hamlin, of Tenn., Dr. George L. Lucas, of Illinois, Mrs. E. S. Tupper, of Iowa, Dr. Jewell Davis, of Illinois, J. W. Hosmer, of Minn., and Hon. M. L. Dunlap, of Illinois.

In the absence of a regular order of business, the president stated that Dr. Bohrer had prepared a paper on "The Objects of this Society," which he would call on him to read, if consistent with the pleasure of the society. There being no objection, Dr. Bohrer read as follows:

Ladies and gentlemen of the North American Beekeepers' Society. This being our third annual session, it will not, I think, be deemed improper or unimportant to take a retrospective view of our proceedings, and, if possible, ascertain and expose before the public, in part at least, the beneficial results which have been derived from the same by the masses of the beekeeping public.

For most unquestionably it should be the grand object of a national organization of apiarians, to benefit not only the few who may meet and deliberate from time to time, but, if possible, the entire profession should in some degree or other share the benefits, from the humblest beginner with his single colony, to the most extensive apiarian with his thousand swarms.

But, in attempting to canvass our proceedings, I feel compelled to acknowledge myself somewhat at a loss, on the account that our reports up to our last annual meeting are too meager to afford any considerable amount of assistance; and aside from this, I have not had access to our corresponding secretary's record books, so that my position is not at all fortified by official reports, but I am left to treat the subject entirely from information obtained through an extensive correspondence and personal observation. Such I will state in the outset should not be the case; but instead of such a state of affairs, our records should be full and complete, so that any one, whether directly connected with our society or not, could examine our proceedings at any time, and find them to be such in character as to reflect credit upon the organization from which they emanated. Such is the condition of our report of the Cleveland convention; but the reports of the two previous meetings, held here and at Cincinnati, are such as to amount to but little more than a blank to all who were not present to witness the deliberations.

At Cleveland, a publishing committee was appointed, and positive instructions were given to publish the proceedings of all our meetings held up to that time, but from some cause or other, not yet explained to the satisfaction of many, only one third of our record is in print. The explanation given, states that a full report of our proceedings of the session held at this place, could not be obtained. But why such should be the case, I with many others cannot fully understand, in presence of the fact that we had a secretary, who stated to me in person, some months after the close of the session mentioned, that he held the records of our proceedings, and that the same would be turned over at Cleveland. This promise on his part was complied with in part to my certain knowledge; but as to whether or not a complete report was transmitted I am unable to state, but I will at any rate hazard the prediction that such was not the case, or the funds in our treasury were not sufficient to defray the expense of publishing our transactions in full. Here I will let my inquiries rest, and will at once state that unless we can so shape our transactions as to furnish all who may feel disposed to read after us, a true copy of what we say and do, it is simply a waste of time to meet and transact business, except to the few who may have something to sell that pertains to beekeeping.

To such as have a hive to sell, or some colonies of bees and queens to dispose of, a convention is a very good place to scatter circulars, and describe the excellent qualities of a hive. It is also a place of unsurpassed qualities for editors of bee journals to procure subscribers, and to get a few friends to puff them and their merchandise, a full report of which never fails to appear in the next issue of their papers. This is all right and proper, as every person is justly entitled to the privilege of advertising his own business to the very best advantage, but it cannot be expected that they will put very much in print, and herald the same broadcast over the country, that is not calculated either directly or indirectly to advance their own personal pecuniary interests. Such being the case, it is quite easy to understand that all who do not happen to be present at our meetings cannot become the possessors of anything but a garbled report of our transactions, and that the grand object for which a national society should exist is at once crippled, and unworthy of the support of the masses, whilst it is conducted upon such a plan.

For all cannot attend our meetings; perhaps not more than one out of every hundred who feel, or who can be made to feel themselves interested, provided we conduct our business properly, can be present, for two very conspicuous reasons.

First. Many of our railroads stubbornly refuse to pass our members to and from our conventions except full fare is paid both ways. True, some of them have from the first move that was made towards the organization of a National body of

Apiarians, performed a praiseworthy part in this respect. But not a sufficient number of them have done so to enable hundreds to attend who feel a keen desire to be with us.

Secondly. Many who are quite anxious to be in attendance are not so situated in a pecuniary point of view as to admit of their being with us, even if all our roads would pass and repass them at reduced rates. And I might add, truthfully and properly, that in case it were possible for one per cent. of the beekeepers of the country to attend our annual sessions, it could not be made practicable, because a hall of suitable dimensions to contain them could not be obtained; consequently our sessions could not be as interesting as if attended by from fifteen to twenty from each State.

Such a number of representatives would constitute an audience of from six to eight hundred, by whom business could be transacted intelligibly and interesting to the entire assembly; and at the same time the proceedings of such a body of apiarians, if printed in pamphlet form and distributed throughout the country, will awaken an interest in apiculture, and bring about results which, whilst they have never been equalled before, will surprise the masses of the beekeepers themselves; because fifteen or twenty delegates from each State can give a reliable account of the resources of the different districts which they represent; what the average yield of surplus honey is; the method of bee management during the summer and winter, the kind and shape of hive best adapted to the different sections, as it is not yet certainly understood that a hive which in form is well adapted to one climate will answer well in all. For some contend that a hive which is well adapted to out-door wintering in a warm climate, will not, on account perhaps of its depth, answer a good purpose in Northern latitudes.

From a general survey like this, the experienced apiarian will at once understand that in distributing our records throughout the entire country, reliable methods of bee management are made available to those whose experience is not extensive, and who are hesitating as to whether to move forward in the enterprise of bee-keeping, or whether to abandon it entirely, through a lack of confidence.

All are aware that no branch of industry is so poorly supported by confidence as that of apiculture; and all intelligent and successful bee-keepers, are aware also, that this universal lack of faith is due to two principal causes, namely, imposition and a lack of true knowledge as to how to manage bees. Impostors have visited, and I hope to be pardoned for asserting that they are still visiting, every foot of territory throughout the country, and are selling both hives and books which are in many instances worse than useless when tested in practical bee-keeping. But whilst such is the case, I would not have it understood that all who fail can justly claim that they have been imposed upon, either in the merits of the hive or the book on bee-keeping, which they have purchased.

For, as is the case in all pursuits, many persons begin and make disastrous failures. Some to my own personal knowledge have read a standard work on bee-keeping, but have never studied it carefully, and have at the same time commenced bee-keeping on a large scale with a good hive, and in a short time have abandoned the pursuit in perfect disgust, on account of severe loss sustained.

But I have never yet met with any one that commenced cautiously, on a small scale, and increased his colonies in numbers in proportion to the increase of knowledge and ability to manage them, who was dissatisfied with the results. But whilst such is the case, it is of the utmost importance in giving advice to beginners, to look well not only to the acquirement of a knowledge of the habits of the bees, where it is desired to keep them in large numbers, but also to look well to the location and season.

For any country which does not abound in honey producing plants in large quantities, and is subject to protracted droughts, is not calculated at all for bee-keeping as a profession; yet all sections of country which are adapted to agricultural pursuits, will support a sufficient number of bees to supply the inhabitants with honey for home consumption, if the necessary attention be given them. But all who have devoted much time and attention to apiculture are aware that such teaching has not been practised on a large scale by many who have scattered yellow-backed bee literature in every portion of country upon our continent; but, on the contrary, these six leaved pamphlets have been printed and sown broadcast among the anxious but unsuspecting, and uninformed bee owners, under the title of true guides to fortune in bee raising; no matter what the character of the country might be in which they chanced to find a victim. The only things required to insure success and wealth, through the medium of the apiary, they tell us, are their hive and their so called storehouse of information, and the matter is at once sealed in our behalf. We, of course, are in favor of any move that will in a short space of time make us wealthy. The hive and book are both bought at high figures, as an institution which is to make us wealthy cannot be gotten up for any trifling sum; our bees are turned in, and we go to bed contented, and seldom ever wake up on the subject of being cheated, until our bees are either dead, or in a condition almost if not entirely worthless. Occasionally however, the bees do not perish, but the owner learns, after considerable disappointment and pecuniary loss, that there is something in the shape of a mistake about that book and hive of his, and he drops the matter, and concludes that there is no money in bee-keeping to him, as he has no luck with bees.

But it would be useless for me to proceed farther with a rehearsal of the frauds and deceptions which have been palmed off upon the uninformed. What is most important to us as a national society, if we mean to advance bee-keeping interests, is to adopt measures by which such fraudulent impostors, can be to a great extent defeated, and reliable information put into the hands of all, by printing in full our proceedings, and offering them at such figures as all can afford to pay. True, our proceedings will not take the place of a standard work on the habits of bees and their management in every particular, but they will in many respects furnish the masses with knowledge of a reliable character, which no work now in print can produce, and information too, which will prove to be of infinite value not only to the beginner, but to many who have the benefit of years of experience in practical bee-keeping.

But, says one, has not all this been done, and is it not the object of our society still to have our proceedings printed, and offered to the public? In reply, I would say, that in part it has been done, but not in full, and unless our constitution and by-laws are so shaped as to provide for the accumulation of a treasury fund, I see but one plan by which this object can be accomplished, and that is for the editors of all our bee journals to procure and publish a true and full report. And in order that they may procure a full report, our society should employ some one who is fully competent to make out a complete copy, and furnish the same to each editor, who can well afford to put the same in print, and send it in company with their journals to each subscriber; for it will render them much more interesting and valuable to the readers, who, on this account, will procure a much larger number of subscribers than they will if the journals are less interesting.

Such a plan, however, can only be carried out in full, by a hearty co-operation of those who edit our bee journals from time to time, and cannot, to say the best of it, be made an effective measure longer than from one session to another. And in case the editors who make such arrangements happen to vacate the editorial chair, before the proceedings are printed and distributed, the matter is left to the option of their successors which leaves it surrounded with uncertainty. So that the surest plan will be that of raising the necessary fund, within ourselves, and have our printing done. And there are two methods of obtaining a sufficient amount of means to accomplish this. One is to appeal to the liberality of the members of the society at our meetings, and the other is that of amending our by-laws, so as to tax each member fifty cents or one dollar per annum, or as much as may be necessary to defray the expense of printing.

To some it may be uninteresting to hear this matter discussed, but to such I would say, that this is a matter of no minor importance, as it is the very foundation upon which depends all our future prospects of success and profit, to not only the masses who are annually looking to us, for something new and valuable, but to ourselves. For, if we expect to be very materially benefited by meeting together from time to time as a national body, it is a matter of the most vital importance to have our transactions in print, to be kept as a book of reference when at home. For there is no one whose memory is so good as to enable him to make a record of all he hears, in his mind, and be ready to call the same into requisition whenever circumstances may demand it.

But aside from this, if the results of our experience in practical bee-keeping, are put in print and distributed throughout the country, thousands of persons, both male and female, who up to the present time have little or no knowledge of apiculture as a branch of industry, will be induced to engage in it at once. Such will be the case, more especially with the women of our country than many now suppose, as many of them are favorably situated in every respect, except that of a competent knowledge, as to how bees are to be handled in order to be profitable.

A true knowledge of bee-keeping will at once teach them that this pursuit is peculiarly adapted to their sex. The apiary being situated near the dwelling, renders it convenient for them to superintend the same and see that their little servants and co-laborers are kept constantly employed in an advantageous and profitable manner.

At the present time we have quite a number of talented and educated ladies who are engaged in bee-keeping, and are admirers of the same as a pursuit of income and profit; and many of them have requested me, through the medium of numerous letters received, to use every effort in my power to encourage women to resort to this branch of business as a means of support. And I know of no one method so well calculated to offer such encouragement as that of placing our proceeding in the hands of thousands who as yet know nothing of this profession as one of income. And by adopting this plan, we place before them the names and addresses of several, who are reaping handsome rewards from their bees.

But, ladies and gentlemen, time forbids that I should discuss this subject at greater length, as there are many other matters of importance to be considered by our society. . But I must request most earnestly, that before we adjourn, effective measures will be adopted through which our proceedings will appear in print promptly after each session, and reach the firesides of many who as yet are uninformed as to the merits of this occupation. And in conclusion, I will state that unless we can devise means, through which our record can be put in print, I cannot encourage the upbuilding and farther prosperity of a national society of beekeepers.

G. BOHRER.

Dr. Bohrer's paper was, on motion referred to the business committee.

The president drew the attention of the society to the topics suggested by Mr. Quinby, as presented in the president's address, and suggested that they be taken up and disposed of, which was agreed to.

Mr. Quinby's first question was:

"*Will right management of bees develop peacefulness of disposition, as we know wrong management developes the opposite?*

Dr. Bohrer, of Indiana, said he had handled bees roughly without irritating them, while others could not be kept peaceable with the quietest handling. They varied in temperament. He considered that they had fixed habits, while their dispositions were inconstant, but that they acted wholly on the defensive. By gorging them with liquid sweets, they were generally rendered amiable. In one instance he had, for six successive days, handled a colony of bees repeatedly without their showing the least resentment. On the seventh day he opened them with the usual care and precaution, and they became terribly excited. All of them flew at him, and yet he was not aware of doing anything unusual or that should have irritated them.

Dr. Geo. L. Lucas, of Peoria, Ill., differed from Dr. Bohrer; had seen one Brooks, of McLean Co., Illinois, exhibit bees at fairs that he was satisfied were tamed. He carried them about for weeks and handled them with impunity. On one occasion Dr.L. handled them himself, when Brooks was disabled from doing so, and found them to be as gentle as could be wished. He tried his own uneducated bees and failed. Thought they could be taught to recognize their keeper by scents.

Dr. Bohrer. Were they not fed on liquid sweets?

Dr. Lucas. They were not fed at all. Brooks used no sweets. It was in his opinion a matter of education.

Mr. R. A. Southworth, of Odell, Ill., thought with Dr. L. that bees could be tamed. After handling bees from four to six days he was enabled to open them without taking the usual precaution of alarming them first.

Mrs. E. S. Tupper, of Des Moines, Iowa, thought that the members misunderstood Mr. Quinby's question. She understood the question to apply to the permanent improvement of the race, by careful breeding and selection, and not to the management of single colonies. Bees at fairs are not in a normal condition, and consequently do not act normally. To teach bees in an apiary to know their owners would require constant teaching, as the lifetime of a bee is short, and young bees were constantly taking the place of the old ones, so that every day new acquaintances would have to be formed; thought that they did not know the way they were handled and managed, and only responded with gentleness to gentle and proper handling, such as a good beemaster knew how to give; that they did not know strangers, but that strangers were ignorant how to act with them, and supposed in consequence, Dr. Bohrer no doubt acted carelessly on the seventh day, having too much confidence in the amiableness of his colony of bees. Some bees are cross while others are the opposite under apparently the same conditions. If we would pay more attention to the selection of queens to breed from, whose progeny had the desirable qualities in the greatest perfection, great improvements might be permanently made.

Dr. Lucas asked how far from a normal condition are the bees at fairs, when they were set down and opened and went to work carrying in honey and pollen?

Mrs. Tupper. The moving and stirring of the crowd around them kept them in continual alarm, so that they were always filled with honey, and consequently in a peaceful, normal condition. Hives that are continually disturbed every day are always more easily managed, for they are kept in an abnormal condition.

Mr. G. W. Zimmerman, of Urbana. O., asked, Does opening a hive often make the bees more quiet?

Mrs. Tupper. It does.

Mr. W. R. King, of Franklin, Ky., asked, Did not Dr. Bohrer kill some of the bees, and thus cause irritation?

Dr. Bohrer. Did not kill any.

Mr. W. R. King, thought that the scent of crushed bees would induce anger.

Aaron Benedict, Bennington, O. Bees are influenced by the condition of the atmosphere and weather, and are more easily roused to anger in damp or rainy weather.

Mr. A. J. Pope, Indianapolis, Ind. Had a hive that he opened five or six times a day for some time and always found the colony peaceable, but after letting them alone for several days they showed rage when he attempted to open it.

A. F. Moon, Indianapolis, Ind. Bees could be domesticated only on the principle advocated by Mrs. Tupper. The progeny of different queens differed in temper and other qualities, just as with man and the brute creation, and by a careful selection we may make the desired qualities regular and permanent.

Mr. Seth Hoagland, Mercer, Pa. Bees taken to a strange place were generally peaceable when opened. They become cowed. A "rooster" fights best on his own dunghill. Thought bees susceptible of education, but that they could be improved by selection and breeding as advocated by Mrs. Tupper and Mr. Moon.

Mr. McFitridge, of Carthage, Indiana, did not believe that moving bees tamed them. He practiced moving his bees to pasturage twenty to thirty miles every year to take advantage of the poplar, linden, and other flowers that were located apart in different groves, and found many, that on opening them, "gave him fits."

Mr. Hoagland did not mean that moving in all cases tamed bees. but that was its tendency.

A. F. Moon. No bees were so docile but what they could be excited to anger, but as a rule, if you will deal gently with bees they will deal gently with you. Moving bees did make a difference, but while some would be subjugated by it others seemed to be more belligerent.

Rev. H. A. King of N. Y. If bees are thoroughly subdued there would be no show of anger. It should be thorough when undertaken.

I. S. Merrill, Fortville, Indiana. Breathing on bees will irritate them. Had known instances where the breath of strangers, six or eight feet off, to the windward of the bees, had enraged them.

A. Pillen, Beverly, Illinois, sawed and bored holes in the top of a hive to put honey boxes on, without exciting the anger of the bees.

I. W. Hosmer, Janesville, Minnesota. Bees can be domesticated. He had some bees set by a path that became so accustomed to passers that they never tried to sting. Believed that they could be so familiarized and accustomed to being handled, that they would be perfectly peaceable.

Dr. T. B. Hamlin, Edgefield Junction, Tenn., gave experience with bees placed on a path near a gate that was used and slammed repeatedly during the day, and thought they became accustomed to it, and did not mind it. They were not Italian bees, but the gray bees of the south.

Mr. McFe'ridge had bees in the Huber leaf hive, which he set on his porch, which soon became so tame that they bothered no one.

President Clarke thought Mrs. Tupper correct in the construction she put on Mr. Quinby's question, It was an interesting subject; more so to him, perhaps, than to others, from the fact that he was *bee* hated. Why should we not improve them, and even carry it to such an extent that they would have no inclination to sting except upon very rare occasions. It was probable it could be done. There was evidently a difference in the temper of different colonies of bees of the same variety; there was no doubt that they had their moods, the best of them are not always alike amiable. They were in that respect like men and women, but some you can approach, at all times, with confidence; others you have to find out their moods before approaching them. A mother may have a gentle progeny, while her daughter queens may produce a vicious offspring through the influence of a remoter ancestry. We have to take all these things into account, and use appropriate means to correct what is wrong and encourage what is desirable. As a rule, it does not take as much to arouse the black bees as the Italians. They are easier to take offence.

Dr. Bohrer. Have you had any experience in taming the zebra?

President Clarke. No, but in proof of a diversity in the natural disposition of bees, he might say that he had in one instance a colony sent him by express, that from rough handling was broken open on the route, yet they came and were delivered without troubling any one on the cars, while another that was expressed in the same way, got broken open and stung around generally. The locomotive had to put on extra speed to run away from them.

Mr. Hoagland, Pa., could not join Mr. Clarke in the wish for a race of bees that had no stings.

President Clarke. Did not say a race of bees that had no stings, but he wanted to breed out of them the desire to use them on ordinary occasions.

Mr. Hoagland thought that their being armed with a sting was a wise arrangement, as without the means to defend their stores, they would be continually robbed and become extinct. Their existence depended on their stings, and he thought they could not be entirely deprived of the instinct to use them.

Dr. Bohrer thought they could not be rid of the disposition to resist assaults or robbery. Liquid sweets and other means could be used to control them, but even then, if roughly handled, they would resist.

Mr. Pillen. Never strike about them or blow your breath on them or they will resent it.

Dr. Hamlin had a colony that became noted for extreme crossness whenever approached, but by being very cautious and gentle, and taking time, he was enabled to handle them even without the use of smoke. He was at least twenty or thirty minutes in opening the hive, for when he attempted to raise the honey board they were ready to fly at him, but after patient and repeated trials, he took it off, and took out the frames without arousing the anger of any of them.

The society adjourned to 2 o'clock P. M,

AFTERNOON SESSION,

The society met at 2 o'clock, Vice President Clarke in the chair.

The business committee, by their chairman, Seth Hoagland, of Pa,, made a report in part, which was received, and after some discussion and slight amendments, was adopted, as follows;

The business committee report the order of business as follows:

1st. There shall be three sessions each day, from 8 A. M. to 12 noon; from 1½ to 5 P. M., and from 7 to 9½ evening.

2d. That D. L. Adair be employed as reporter of the society, and that a full report be had of the proceedings to be published in the different Bee Journals and Agricultural papers.

3d. The election of officers shall be held at 3 o'clock, P. M.

4th. Discussion of unfinished topics of forenoon session.

5th. Topic for discussion at night session. "Is bee-keeping desirable on all farms and at all suburban homes?"

Hon. M. L. Duhlap of Champaign City, Ill., moved to amend the 5th article of the constitution, so as to read:

"Any person may become a member by giving his or her name to the secretary, and paying an annual fee of $1, except ladies, who shall be admitted free of charge," which was seconded and finally adopted after animated discussion.

The hour of 3 o'clock having arrived, the special order, which was the election of officers, was called, the result of which was as follows:—

Rev. W. F. Clarke of Guelph, in the Province of Ontario, Dominion of Canada, was elected President.

Rev. H. A. King, of the City of New York, was elected Secretary; D. L. Adair, of Hawesville, Ky., was elected Corresponding Secretary, Hon. M. L. Dunlap, of Champaign City, Illinois, was elected Treasurer.

The following Vice Presidents were elected:

For Ohio, S. P. Shipley, Olena.
" New York, Capt. J. E. Hetherington, Cherry Valley.
" Pennsylvania, Seth Hodgland, Mercer.
" Kentucky, W. R. King, Franklin.
" Tennessee, Dr. T. B. Hamlin, Edgefield Junction.
" Indiana, W. A. Schofield, Indianapolis.
" Michigan, Prof. A. J. Cook, Lansing.
" Illinois, Dr. Jewell Davis, Charleston.
" Minnesota, J. W. Hosmer, Janesville.
" Iowa, Mrs. E. S. Tupper, Des Moines.
" Missouri, L. C. Waite, St. Louis.
" Kansas, Dr. L. J. Dallas, Baldwin City.
" Utah, W. D. Roberts, Provo City.
" New Jersey, E. J. Peck, Linden.
" Wisconsin, Rev. A. H. Hart, Appleton.
" District Columbia, Hugh Cameron, Washington.
" Ontario, Dr. J. C. Thorn, Garafraxa.

For Georgia, R. Peters, Atlanta.
" Texas, Rev. R. Sproull, Velasco.
" Arkansas, Wm. H. Fulton, Little Rock.
" Maine, Mrs. A. C. Hatch, Houlton.
" Connecticut, Wm. H. Kirk, West Cheshire.
" Louisiana, John Kasson, Alexandria.
" Alabama, Miss Fannie L. Norris, Shelby Springs.
" Massachusetts, E. N. Dyer, Amherst.
" West Virginia, A. Chapman, New Cumberland.
" Nebraska, W. Young, Plattsmouth.

On motion, the constitution was amended so as to strike out from the 3d article the words "Recording Secretary" so as to abolish that office.—

President Clarke on taking the chair, cordially thanked the society for the favor, and took it as an honor and an act of kindness, not only to him but to his country. Many, he said, were far better qualified than he was to discharge the duties of the office, but he yielded to none in his devotion to the cause of apiculture. If that was a qualification, he was eminently qualified. He would try to discharge the duties in a satisfactory manner, and asked the society's indulgence wherein he might come short.

W. R. King of Kentucky, suggested that it was the duty of the former treasurer to make a report. He called for it, and moved to suspend the order of business, that it may be handed in. The regular order was suspended, and after some discussion

Dr. Lucas of Illinois moved the appointment of a committee of three, to audit the accounts, settle with the treasurer and report in the morning, which being adopted, the President appointed Dr. G. Bohrer of Ia., Aaron Benedict of Ohio, and A. J. Pope of Ia., said committee.

The society adjourned to 7 o'clock.

Evening Session.

The society met at 7 o'clock P. M. The President in the chair.

The special order of the evening was the discussion of the topic:

"Is bee-keeping desirable on all farms and at all suburban homes."

Dr. G. Bohrer thought that in most sections the question could be answered affirmatively, in some localities, unless honey plants were cultivated, bee-keeping would not prove remunerative. He thought, however, there were but few such places.

A. J. Pope of Ia., thought it could be overdone.

J. Z. Smith of Weston, O., thought all farmers could keep bees with profit. He kept his bees like he kept his hired men, to work all the time, and he made it a point to furnish them something to do. Alsike clover he considered of great value, the first crop can be cut at different times, so that the after growth will come in at different times in rotation, so as to furnish a long harvest for the bees. It makes hay as good or better than red clover and pays as a forage crop alone. Any farm that is rich enough to produce the ordinary crops of the farmer will produce it.

A. F. Moon said, the subject was of the greatest importance, and if properly discussed would answer many inquiries. He was of opinion that any one living near orchards and having the ordinary varieties of vegetation around him, could keep more or less bees with profit.

Dr. Bohrer said he understood the object of the question was to ascertain whether extensive bee-keeping could be engaged in everywhere, an affirmative answer would therefore have to be conditional.

M. L. Dunlap of Ill., did not so understand the question, but as one of the committee, he understood it to be whether it could be recommended for family use, to supply every one with a desirable luxury. We have not everywhere the advantages that Mr. Hosmer enjoys, but he would venture to say that anywhere in the Northwest bee-keeping could be made a desirable pursuit. The mere production of honey, although the principal object in view, was not the only thing desirable about it. The out-door exercise that all American women so much needed was supplied. We look on this country as a stock country and no one thought of saying it was not profitable when intelligently conducted. Yet there are but few who have the patience and necessary knowledge and intelligence to make it a success. So with bee-keeping, and he advocated bee-keeping as a delightful and profitable pursuit—as a family recreation and resource—not that thousands of pounds can be raised by all, but that all can have a supply. The Southern sugar plantations were now divided up and were fast getting into a condition to furnish the necessary sweets far cheaper than the beekeeper is willing to sell his honey. The best of syrup can be had at 60 to 75 cents per gallon. The beekeeper would not like to take that for his honey. When we can teach everybody to manage bees, we add another attraction to home, something more is added to keep our boys from the cities and from the vices that abound there.

We find few farms for sale in our country now, because they are not as they have been, but rural taste has improved them, and our people are learning to appreciate the refining influences of what were once considered foolish and unprofitable investments of money and time. Our homes are made more attractive, and our children are better satisfied. Bee-keeping adds another valuable attraction, for it is an interesting pursuit, aside from its pecuniary gains. Suburban homes need these things to perfect them, and he maintained that it was possible to all to be profited by keeping bees. We have the flowers everywhere, but if they are trampled out, they must be raised, protected and made accessible to the bees, and thus it may be made a success everywhere. He had seen bees kept, and successfully, even in Chicago, in the suburbs where white clover abounds, and there is no probability that the time will ever come when it will be otherwise.

Mrs. Tupper said, she met a farmer and his wife going out of Des Moines; the farmer had received the proceeds of four loads of corn he had delivered, which was $1 ', or $3 a load, and his wife had sold the honey from three hives of bees, for which she had received $25. She had a neighbor woman, who knit mittens to get the money to buy a stock of bees, and got from them the first year 100 pounds of honey.

It is often asked will the prairies always produce flowers to supply the bees with honey. She said as the prairie flowers were destroyed, and gave way, the clover and other honey flowers come in to take their places, and thought it would always be profitable to keep bees on the prairies. Men might fail, but women who knit mittens, to buy bees, get so interested that they will always make it a success. Thought it could be made a success and was desirable at all suburban homes, and in the cities, even on the housetops a few can be kept with pleasure and profit.

Mr. Hosmer was called. He said he had nothing particular to say, but that he was very much interested in hearing the subject of loss and gain discussed. Thought it as profitable as to raise butter and milk, and it would be as good an argument against stock raising, to say, it would not be profitable for everybody to keep cows, as it was against bee-keeping, to say it was not profitable for everybody to keep bees.

M. L. Dunlap. What proportion of the population of Chicago, which contains one seventh of the people of Illinois, do you suppose have a supply of honey?

Mr. Hosmer. Not one in one thousand.

Mr. Dunlap. How many see it once a year?

Mr. Hosmer. One family in a hundred.

Mr. Dunlap. All these are to be supplied. We heve been told for years, that apples would be so plenty, that there would be no sale for them, but we see them selling for $3 per barrel to-day. Ten cents a pound used to be the price of honey, now you are insulted if you are offered less than 30 cents for it. If the beekeepers of the country can increase the business, until the masses get all they can use, there will be tons used where there are pounds now, and the common use will keep it at a remunerative price, and we can even send it out of the country, to supply our friend Clarke and his fellow-Britishers over in Canada. Plant basswood, plant orchards, sow Alsike clover and other honey producing plants, and we can make the honey, and there need be no fears, that it will not always sell at a good price.

Dr. Lucas. Speaking of promised success, it would require information and attention. Honey was not hanging on every bush, and every one's bees did not succeed, for all were not inteligently managed. To keep bees successfully, it was necessary to go at it in earnest, and keep at it until success was accomplished. Some were deterred for fear of getting stung. He advised such to protect themselves with masks and gloves. Few families in the Northwest had a supply of honey, and its use would not be general over the country, when farmers had to buy it. He did not have it, when it required an outlay of $20 or $30 a year to get it, but since he had got to producing it, with his own bees, it was hard to tell how much his family used. He had not the least fear that the business would ever be overdone, or that more honey could be produced than use could be found for.

Mr. Zimmerman of Ohio, thought there could be but little difference of opinion as to the desirableness of raising honey on every farm, and at all suburban homes, and that we were all interested in instructing all how to succeed—as to what plants were needed to supply the deficiency in natural resources, in addition to the plants named, he would mention catnip as yielding abundance of honey for a long time, and he would remind beekeepers that ten Italians resorted to red clover to one black bee.

A. J. Pope of Ia., moved that the discussion of this subject close, and that the question be declared answered in the affirmative, which was carried unanimously.

The unfinished topic of the morning was taken up, which was Mr. Quinby's first question, it was laid on the table, when the president read Mr. Quinby's second question as follows:

"*What caused the disastrous losses of last winter, and how may the repetition of that sad experience be avoided in future?*

For sometime after the question was stated, no member offered to speak; at length

President Clarke said, it had been suggested by a lady on the left, that he had forestalled the discussion of this subject by the rendering of the verdict of the coroner's jury, "Died by the visitation of God," but he hoped no one would be deterred from an expression of opinion on that account.

Mr. Dunlap of Illinois said, he was astonished that there was not half a dozen members striving for the floor as soon as the question was called, as it was a question we know nothing about, and we are always able to discus such questions learnedly.

A member. Was it not the long, cold winter?

Mr. Zimmerman, Ohio, said, that old bees and long, cold winters were causes of dysentery. He tried the experiment of letting some of his bees, that were affected, fly out in a room that was warmed. He saved them, while others that were not permitted to leave the hive, all died. Was again trying the experiment.

Mr. Hoogland of Pa. Could not tell the cause. He wintered his bees last winter in three ways; in a cellar, out doors and in a house. They were all about alike in mortality. He feed some syrup, and lost them, although it was said, that bees feed on syrup would not have the descase. Had on a former occasion put away a swarm without comb or honey, and fed them pure honey, and had them to increase in numbers, build comb and come out strong in the spring, Gave them no water. He stated that he lost $1100 worth of bees last winter, but it was the only Bull Run defeat he had ever met with as a beekeeper. He could give no light on the subject as to its cause or cure.

Mr. Hosmer. Thought Mr. Zimmerman told the cause. He would rather undertake to winter old oxen or cows than old bees. Young bees were the best to winter well. He last winter put away 30 very small colonies with less than half a pint in each, and wintered all—he might as well say he lost no bees. He had some die, but they were queenless and he did not expect them to survive. You cannot winter bees well in a very cold cellar. His cellar don't freeze potatoes. A neighbor, who kept his bees in a freezing cellar, lost all of them.

Mr. Southworth of Ill., asked. Did he confine his bees to the hive?

Mr. Hosmer. No, he left the top off.

Dr. Lucas. Used *Bromo chloralum* as a disinfectant, which purified the hives and removed the bad smell. One part *Bromo chloralum* to nine of water, and sprayed it on the comb with an atomizer.

Mr. Moon. Had his mind made up for several years. Every swarm that he feed with sugar syrup lived. All that were not feed, but used their own honey in wintering, died. The cause is in the honey. If they could fly out once in three weeks, they would not die. Those on their summer stands, suffered less than those in the house. Where bees get good honey, there is no danger.

J. Z. Smith. Why should one swarm die out, that sets by the side of another that survives?

Mr. Moon. Had two hives set side by side, that gathered very different honey, one was white and the other dark. Each colony was resorting to a different kind of flowers.

Dr. Hamlin, Tenn. The honey of one hive will frequently differ from the honey of others, gathered at the same time. Knew of an instance the past season, where one colony among a number gathered good molasses—hardly good molasses—while all the others gathered good honey.

Mr. Zimmerman confirmed the statements of Mr. Moon and Dr. Hamlin; had some to gather basswood while others gathered clover honey.

Mrs. Tupper had no disease among her own bees last winter, but she examined more than 500 colonies of dead bees, and in nearly every instance there was too much honey and too few bees in the hive. They were solid with honey, but no bees. Did not think the honey was to blame, as she had known the honey to be given to other bees without injury, showing that the honey was not poisonous. The brooding stopped from some cause before the honey gathering did, so that there were no young bees.

Mr. Moon. It is evident that the bees examined by Mrs. Tupper did not die from the disease but from a condition of things that prevented them from keeping strong.

E. S. Pope of Blue Grass, Ill. His bees died with plenty of bees as well as honey in the hive.

N. C. Mitchell, Indianapolis, Ia. Thought it a most important subject for investigation. His observations led him to the conclusion that there were two leading causes inducing the disease. The first was bad honey or honey that contained something unhealthful to the bees, which was not fatal, however, where the bees were in a condition to resist it. The second was too much ventilation which so aggravated the disease as to produce mortality. Among the numerous hives he examined he found in every instance, where there were holes in the tops of the hives for ventilation, all the bees were dead, while others in the same apiary that had no upward ventilation were safe. He advised to stop all upward ventilation and leave openings only below. When bees have their own way, they always stop every crack or crevice through which an upward current or draft could be produced.

T. Hulman, Terre Haute, Ia. Put eighty colonies in cellar. All that he saved were some he covered with paper sacks. He lost all he had in 1868, and was of opinion that it was caused by bad honey.

Aaron Benedict of Ohio. Had come to the conclusion that it was a disease in the bee, and not attributable to bad honey or improper ventilation. Had seen a hive on its summer stand that was split from bottom to top, the crack wide enough to let a rat run in, that wintered well while others that had no such ventilation died near it.

S. P. Shipley, Olena, Ohio. Wintered his bees out doors, with upward ventilation to some and downward to others, and found both to do well. Had protected some by covering with cloth and left others without protection, and had never had the disease among his bees, he was satisfied that ventilation had nothing to do with it, and agreed with Mr. Benedict, that it was a disease of the bee.

R. A. Southworth of Ill. Thought ventilation had nothing to do with it, as one of his neighbors had hives badly constructed, of all kinds of scraps and pieces of old lumber, that were very open, many of them leaving the bees almost unprotected, and they came out in good condition.

Mr. Kenyon, Ia. There was no doubt a cause that produced the disease, but what it is, is the question. It was not the long winters, for he lived north of this, where there is now good sleighing, and his bees were not affected. He believed it was something in the food of the bees. He obtained last spring some comb from a neighbor, who had lost his bees and used it in setting up two nuclei. The comb had no honey it, but plenty of bee bread. The bees soon died out. He re-stocked them several times, with the same result every time. The cause was, in his opinion, in the bee bread. Ventilation had no effect. All his bees were ventilated.

N. E. Prentice, of Castalia, Ohio. Was satisfied it was not the long winters, nor ventilation. Lives on Lake Erie. Wintered out-doors last winter, some with straw over them, and others without protection. Had no disease among his bees. Thought it was disease, perhaps the epizootic.

Dr. T. B. Hamlin of Tennessee, said there was great mortality among bees in Tennessee, three years ago. Was of the opinion, that it was on account of too much honey. The cells were filled up, and in cold spells of weather, the bees had no place to cluster compactly together so as to keep up sufficient animal heat.

Seth Hoagland of Pennsylvania May it not be that our bees are diseased like our horses, and no one can tell why?

President Clarke said this discussion had reminded him very forcibly of a story he had heard concerning a certain quack doctor, who was called on to diagnose and prescribe for a disease with which a certain old lady was afflicted. On examining her, he said, that it was a "Scrutunutatory case," which caused the head to go "tizzerrizzen." The old woman said that he described the disease exactly, and he thought it was pretty much the same with this discussion. He could throw no light on the cause of last winter's mortality among the bees, but gave his experience. Out of sixteen stocks he put fifteen in the cellar, where they had always wintered well. In the spring, five of them were dead, and the other ten were in bad condition, so that two died afterwards. The other stock he left on the summer stand, took off the honey board and substituted for it two thicknesses of old woollen carpet. He examined them and disturbed them often during the winter, and always found them in good order, and they came out in good condition in the spring.

Dr. Lucas of Illinois. Bought three dozen colonies of an old German, last spring, that were wintered out doors. When he went after them, found all that had holes in the top of the hives were alive. Those that had solid tops were all dead.

Without coming to any definite conclusion, the subject, on motion, was laid on the table.

The business committee made a report of programme for to-morrow, which was received and adopted, and the society adjourned.

THURSDAY'S PROCEEDINGS.

Morning Session.

The society met, President Clarke in the chair.

Dr. Bohrer, from the committee to settle with the treasurer, made a report, showing that the treasurer's receipts at the three former meetings had been $296, and that he had paid out $295.27, leaving a balance of 73 cents due the society. On motion, the report was received and adopted.

Dr. Bohrer proposed to petition for some plan of registration, by which the security of queens sent by mail may be guaranteed.

Mr. King of New York, said, that the P. M. General had lately decided that bees were not mailable matter.

D. L. Adair of Hawesville, Ky., read the following paper, entitled :

What is the ultimate capacity of a colony of bees for producing honey?

Mr. Langstroth in his book "the Hive and Honey bee," says: "A good swarm ought to contain at least 20,000 workers, and in large hives, strong colonies which are not reduced by swarming, frequently number two or three times as many during the height of the breeding season." While Reaumer, Dzierzon and others, who have made careful observations, do not vary materially from this estimate, and it seems to be generally conceded, that a colony of bees as generally managed, in hives of the ordinary size of 2,000 cubic inches, which seems to be their standard, contains on an average about 20,000 workers, except for a few days at swarming time, which excess causes swarming to take place, and the population is reduced for a time below this number, so that the effective working force is about that number.

Now it would appear self evident, that if the average population of the hive could be increased and maintained at a greater number, the production of honey would be increased in the same ratio. The question then comes up, what is the extent to which the population can be increased?

I state as admitted facts, that during the period of active honey gathering, all of the worker bees in the hive die inside of 50 days, and that the population of a colony can at no time exceed the number of eggs the queen can lay during that time.

The Baron of Berlepsch in his work on "Bees and bee-culture" gives the result of four experiments that he tried to ascertain the productiveness of the queen.

In the first, made in 1846, the queen laid 1604 eggs in 24 hours. In 1850 he counted all the brood in a large and populous hive and found 38,619. Assuming 20 days as the average time for their development, the queen had laid at the rate of 1,913 on an average daily. In 1856 he made the third examination and found 48,000 cells stored with brood, which gave an average of 2400 daily. The fourth experiment was made in the same year.

He placed an empty sheet of comb in a hive and put the queen on it. He waited until the queen commenced to lay and then closed the hive. At the end of precisely 24 hours he took the comb out and found 3,021 eggs in it. He had no means of ascertaining whether she laid in any other comb. He saw her lay six eggs in a minute, which was at the rate of 360 in an hour, or if she had continued at that rate she would have laid 8,640 eggs in 24 hours, or would have laid the 3,021 in about 8½ hours, leaving 15½ hours for rest.

Dzierzon counted the number of cells in a populous hive, that contained brood and eggs, and found 60,000, which, divided by 20, the number of days required for the bees to mature, showed that the queen had laid at the rate of 3,000 eggs per day.

Mr. Rood stated at the late meeting of the Michigan Beekeepers' Assocation, that Mr. Otis had found that a queen had laid 3,500 eggs in a single day.

During the past season, which was a poor one for honey in Kentucky, and consequently unfavorable to extreme production, I was observing the difference in the productiveness in different forms of hives, and in the best hive of the standard size of 2,000 cubic inches, I found 31,200 cells filled with brood, which required that the queen should have laid 1485 eggs on an average each day for 21 days, which I find is the average time required for the maturity of the worker bee.

In the other form of hive, in which brooding space was nominally unlimited, I found 75,168 cells filled with brood, and allowing 21 days for the queen to lay the eggs, she had laid at the rate of 3,579 eggs daily, or assuming them all to be laid in 20 days, as Berlepsch and Dzierzon did, she had laid at the rate of 3,758 each day. This last was not an extreme instance among my hives, and although I made no careful observation of others, I am satisfied that many of them exceeded it in population and had more brood in them.

The other hive was as good as any of the ordinary size and form of hives that I had, as could be easily seen by observation, and noting the fact that the room was not to be had in them to deposit many more eggs, after deducting the space for honey that would be naturally stored by the bees, around the brood nest. Taking these experiments as a basis, we find that if a queen should continue to lay eggs, at the rate of one thousand four hundred and eighty-five daily, there would be produced in fifty days (which I assume to be the lifetime of a worker), seventy-four thousand two hundred and fifty bees, and if they could in such hive be so managed as to prevent swarming, there would be a force of bees in the hive, nearly four times as strong as Mr. Langstroth and others tell us there is in a good swarm, but as there has been no means yet devised by which swarming can be prevented in such hives, without at the same time interfering with the increase of bees, except in rare instances, and by a great deal of care, such a force seldom accumulates in one hive, or if they do, there being no room for them all to work, they are worse than idlers.

The Melipult is only a partial remedy, as it only makes room for storing honey, while it gives the wax workers no employment. Yet, with its assistance the honey yield is increased three-fold. On the other hand, in the other hive, with unlimited room for brood nest, and for the employment of the whole force of the hive at all times, the queen laying at the rate of three thousand five hundred and seventy-nine eggs daily, the force would be maintained at about one hundred and seventy-nine thousand, or nearly nine times Mr. Langstroth's estimate, and with very little attention. Let us carry our calculation a little farther, and see if we can ascertain the capacity of each of the colonies for the production of surplus honey.

With intelligent management Mr. Langstroth's swarm of twenty thousand bees, or my smaller hive of two thousand cubic inches, can be made to produce one hundred pounds of box honey, and by the use of the Melipult, if swarming is prevented, three hundred pounds might be obtained of extracted honey. Now, as the large hive will have nine times the force of a good swarm in an ordinary hive, it follows that they can produce nine hundred pounds of comb honey, or to count it exactly, eight hundred and ninety five pounds.

The question, however, arises, can the bees construct comb sufficient to hold so great a quantity of honey. When I made the statement that they could, in a pamphlet I published on "Progressive Bee-culture," the statement was ridiculed and pronounced reckless by some of our most intelligent beekeepers, but I have seen nothing to cause me to retract the statement.

An ordinary swarm of bees has been known repeatedly to build a square foot of comb in twenty-four hours. Dr. Byrd, who placed a natural swarm in one of the large hives I have been speaking of, reports in the Western Agriculturist, that the bees built nine sheets of comb ten by thirteen inches, in a week, which was more than a foot each day.

Now fifteen square inches of comb, will, on an average, hold one pound of honey, so that each square foot of honey in the comb will weigh nearly nine pounds and two-thirds, and if they continued at that rate they would construct the comb for nine hundred pounds in about ninety-three days, or about three months.

But we must recollect that the colonies that have been reported as making a foot of comb in a day, were ordinary swarms, which Mr. Langstroth says have about twenty thousand workers, or at best, as we have shown, could only have about seventy-four thousand, while the force the large hive has to do the work with is one hundred and seventy-nine thousand, nine times the former number and two and a half times the latter, so that even compared with the seventy-four thousand, it would only require about thirty-eight days for them to construct comb enough to hold nine hundred pounds of honey.

Another and stronger proof of their capacity to supply the comb, is the fact known to all, that twenty thousand bees that constitute the working force of an ordinary swarm, *do produce* the comb in which one hundred pounds of honey is stored, and I can see no reason why nine times as many cannot build comb to hold nine times as much honey.

The next topic called, was, "what is the best method of increasing stocks?" It was laid over on account of the absence of Mr. Hosmer, the question having been put on the programme especially to draw out his method.

The next topic was, "Is the Italian bee superior to the black bee?"

Dr. Lucas of Illinois, said that it had been affirmed and re-affirmed so often, that he did not think, there was any one doubted it. He wished no better bees than the Italians.

Dr. Bohrer, had in 1871 about an equal number of hives of each, and he only got honey from the Italians. The Italians conducted themselves better in every respect. They were more prolific. Had not noticed that they worked at unusual hours, or on red clover to any extent, nor were they any more exempt from disease.

Mrs. E. S. Tupper of Des Moines, Ia., for several years had only Italian bees, during which time she had seldom seen a moth, or had a robbery. This year in addition to her Italians, had to manage 150 stocks of black bees. The blacks were troublesome in robbing, and the moth was numerous and destructive among them. The blacks would not defend themselves against the moth, when weak or queenless. The season was bad, and the moth was very destructive to the black bees, around in the country, while the Italians were nearly exempt from their ravages. In Iowa, it is conclusively proven, that in poor seasons the blacks do nothing, while the Italians nearly always hold their own.

Dr. Bohrer said, the Italians had one fault. They were inclined to swarm too much, late in the season.

Seth Hoagland of Pennsylvania, said, it was not the object of the committee to hear expressions of opinion from celebrated queen breeders such as those who have spoken, but from those of the society who are in a position to give a disinterested opinion, from having practically tested them throughout the country.

Dr. Bohrer said, he was not desirous of selling any more queens, as he could make it more profitable to produce honey.

Hon. M. L. Dunlap of Illinois. Said he was not interested in the queen business, and was of opinion, that the introduction of the Italian bee was a move in the right direction. The black bees were no doubt degenerated, by long years of close in-and-in breeding, and the intermingling of new blood with them had the effect of improving them. On the other hand, the Italians had been misrepresented, and had too many good qualities attributed to them. They had been overrated in many respects. The queen raiser was to blame for this. He did not find the Italian as gentle as the black bees, the opinion of others to the contrary, notwithstanding. They were as easily destroyed by the moth. He was not a commercial *bee*-ist, as he only kept bees for his own use and gratification. He had none to sell. He was interested, however, in obtaining the best, and if there was such a thing, he would like to get them pure. He had tried to find pure Italians, and would have had them long ago, but had not been able to find who had them. He would like this society to decide by resolution, what were pure Italian bees, and also where they could be had.

H. A. King of New York. Said if he wished to help grind an axe, he would say that his friend Winder had pure Italians, as pure as he had seen in Italy. He (King) examined 200 colonies in the apiary of Von Hruscka, and found two there which he pronounced impure. Hruscka admitted that they might be impure, as he had bought them from other parties.

Dr. Bohrer discussed the question of purity, and said, the Italian bee was in the condition of recently established breeds of hogs, cattle, and other improved stock that did not become constant, until after a long series of "breeding out," or careful breeding, and concluded by saying that the type of the Italian race was not so fixed as to produce a regular, uniform insect.

Dr. Lucas said, his experience was with Italian bees from four different breeders, and that full blooded and half bred Italians yielded well, but that one-fourth and lower grades were no better than black bees. Thought the honey of the Italians heavier, more dense, and had a superior flavor. They may not have a longer proboscis, but were superior as honey-gatherers and more quiet.

M. Disher, Lewisburg, Ohio. Bought his first Italian bees of Langstroth, who told him that they would work on red clover. He made observations to find out if it was so. The first count he made, he found four black bees on the red clover to eighteen Italians. The second time he found six black bees to twenty-eight Italians. The Italians worked two hours in the morning on red clover, before the black bees commenced on white clover. When the Italians swarm naturally, he found them more cross than the black bees, but in making artificial swarms they are more easily managed. The Italians he found almost entirely free from the moth.

H. A. King. Thought that natural Italian swarms were more cross than the black bees.

Mrs. E. S. Tupper confirmed the statement, and gave as a reason, that the black bees always made preparation for swarming, by filling themselves with honey, while the Italians were not so provident, and consequently were crosser.

Mr. Southworth of Illinois. Could not see but what the Italians would rob as quick or a little quicker than the black bees. When they smell honey, they "go for it." They "go for" the moth too.

Mr. W. R. King of Kentucky. Agreed with Mr. Southworth as to the capacity of the Italians to find sweets a long way off. In transferring bees 2½ miles from his apiary, his Italians appeared as robbers in great numbers. The Italians were more inclined to store honey in the lower chamber, and would not work in boxes as readily as the black bees.

J. S. Hill, Mount Healthy, Ohio. The moth worm will get into hives of all kinds of bees, but the Italians will cut them out and repair the holes, while the black bees let them alone, and finally succumb to them. He would on that account, prefer them, if for no other reason.

Mr. Wilkinson of Ia. Asked if there was any difference between a cross of the Italian drone and a black queen, and the cross of a black drone on an Italian queen.

Mr. Zimmerman of Ohio. Said the cross of the Italian drone and black queen was preferable to the other cross, and that the Italian was preferable in every respect to the black bee.

Dr. Bohrer. Said when an Italian swarm of bees determined to fight, they can make the black bees ashamed of themselves. In hiving them, he had got himself completely "coated" with them, so that it took him two hours to get his "coat" off.

N. C. Mitchell. Had a colony of pure peaceable Italians that swarmed, and when he attempted to hive them, became extremely belligerent. Several persons went up into the tree to get them down, but had to retreat precipitately. He went up himself, and got severely attacked.

A member. How did they compare with the Egyptians?

Mr. Mitchell. The Egyptians can shoot a dead shot at any distance, from 10 feet to a mile. The Italians cannot do that.

Mr. Pope of Illinois Said he had opened and handled the Egyptians that whipped Mr. Mitchell so badly, and found them perfectly docile.

N. A. King suggested, that as what was being said here about the fighting qualities of the

Italians, would be published to the world, that it should also be published, that, if they were sprinkled with sweetened water, they would fill themselves and become perfectly gentle.

S. P. Shipley of Ohio. Said that the Italians increase faster, and have many qualities superior to the black bees.

Dr. Hamlin of Tennessee. Feared that his opinion would be ruled out, by what Mr. Hoagland had said, as he was a queen raiser, but he agreed with Mrs. Tupper in what she had said of the good qualities of the Italian bees. For several years he had no others in his apiary, and had almost come to the conclusion that the moth was becoming extinct, as he had seen but few of them. During the last year he had been handling black bees in other apiaries, and found it was not so.

Mr. Allen, Kansas City, Mo. Thought there was a necessity for a better stock than the black bees, and that it was found in the Italians. Did not think it possible that the black bee could be bred up to the perfection of the Italians.

Mr. Pope, of Ill., said the Italians were easy to handle, and better in every respect.

Mr. Shipley recommended chickens as a remedy for the bee-moth. Said he set his hives low down, and placed the coops of young chickens among them, and they caught many moths.

President Clarke. His experience with the Italians was entirely satisfactory, and considered that he had been well repaid for all the trouble and expense he had been at to get them. He disagreed with Mr. Dunlap in much he had said about them, and had thought until now, that intelligent beekeepers were unanimously agreed as to the great value of the Italian bees.

J. S. Merrill, of Ia., believed that the Italians were superior, and desired an expression of the opinion of the society to that effect. He therefore moved that the subject be referred back to the committee, with instructions to report a resolution to that effect.

Mr. Dunlap, of Illinois, moved to lay Mr. Merrill's motion on the table, and advocated this course on the ground that the expressions of individual opinions here were sufficient to inform the people, and they were competent to judge from what had been said whether they had merit or not, and the passage of a resolution by this society would have no force and would fall dead.

Mr. Dunlap's motion was adopted, and Mr. Merrill's motion was tabled.

Dr. Hamlin moved that it be decided by a rising vote whether the society considers the Italian superior to the black bee. The motion prevailed, and on a vote being taken, it was found to be unanimous in favor of the Italian bee.

Dr. Lucas, of Illinois, moved to amend the 7th article of the constitution so as to read as follows:

"No member shall be entitled to the floor more than five minutes in the discussion of any motion, resolution or petition, without consent of the society, nor a second time, unless by consent of the President or a majority of members present."

Which was adopted by the requisite constitutional vote.

The topic laid over in the morning, was called up, viz.:

"What is the best method of increasing stocks?"

The President called on Mr. Hosmer to open the discussion.

Mr. Hosmer said he had no objection to state his method. In the spring he gets the queen to laying as soon as possible, by feeding the bees. The bees when set out of the cellar, have given to them only as many sheets of comb as they can cover; these are placed against one side of the hive, and a sack of honey is hung on the opposite side as far from the bees as it can be got, inside the hive. The sack is made by covering a frame on each side with common "domestic." The honey is poured in from the top. The bees take the honey by sucking it through the cloth. The queen will lay very rapidly, and soon fill the frames with brood, when other frames of empty comb are introduced, which is repeated as often as necessary.

A Member asked if it would not be better to place the feeding sack alongside of the comb.

Mr. Hosmer said, No. Place it as far off as the size of the hive will admit, and the bees in carrying it over to the cluster will "fool" the queen. She will think the honey harvest is going on and lay accordingly. The brood comb should be kept emptied of honey. When the lower story is about filled with brood, he moves it to the upper story, a frame or two at a time, and continues to supply the queen with empty comb below.

A number of questions were at this time put to Mr. Hosmer, in answer to which he stated, that the quart of bees he put away in his cellar did not increase while in the cellar, and were all he had to commence with in the spring. He was asked what he considered a quart of bees, and how much comb could they cover so as to nurse and take care of the brood. Mr. Hosmer said, when he said a quart of bees, he meant a *quart of bees*, which he estimated would consist of five thousand bees. He did not mean a natural cluster as big as a quart measure, for that was not a quart. He said, "If you will take a quart measure perforated with holes and place it over a cluster of bees and sprinkle them with cold water so as to drive them into the measure, what can crowd into it will be what I consider a quart."

He gives no ventilation whatever in summer; he even contracts the entrance in the spring, in order to keep the hive as warm as possible. He continues this shifting until he has the whole hive, which contains eighteen frames, filled with brood. Thus he raises his bees.

To increase them he first sets up a nucleus by taking from a hive that contained a select queen, one sheet of brood and adhering bees, and permitted them to form and perfect queen cells. He then made as many equal colonies from the original one as there were queen cells; giving to each a cell out of which to raise a queen. This would be the management he would give one swarm. He was asked how many colonies he could make by this management. He said he had made nineteen large swarms from one. The first division he made four new ones, and as they were strengthened up by breeding, he went through the same process with each of the new colonies. A quart was his standard for wintering, and it was enough to start with in the spring. He used common "factory," to make feeders of. The whole theory was to keep the bees feeding all the time when they can get none in the fields, regardless of the time of year. The past season he had not done as well as usual. He started in the spring with twenty-five colonies. His sales of bees from them amounted to $528, and he had secured two thousand pounds of honey, and had now one hundred and eight colonies. Sold swarms at prices averaging $15 each. He said he had made as high as ten colonies from one in September.

Sugar syrup was as good or better than honey for feeding, but he generally fed honey, as it was cheaper to him. He estimated that it cost him a cent a pound; he raises all his queens from one hive, and makes up the swarms from the others. As he takes out sheets of brood for queen raising, he puts in empty comb, and in that way one queen would furnish all the eggs needed.

He was asked if he had ever secured one thousand pounds of honey from one swarm. He answered that he never had said so, although it was reported over the country that he had so stated at Cleveland. He only proposed to do it if some one would buy all his bees except ten colonies. He thought he could do it; he believed that he had done it this year, but did not keep the stocks long enough to put the steelyards to them. He disliked to state what he believed he could do, as it would be said that he said he had done it. His offer made last year at Cleveland was still open. No one had yet accepted it. It had been said that he used magic; the magic of the whole thing was that he had the best honey-producing district in the world. He was a bee hunter when he went to Minnesota, but he lived there five years before he could get the bees to work on "bait;" the yield of the honey was so great and so continuous, that they had to be "lined" from the flowers; such was not the case all over his State, it was only so in certain favored localities, but he could point out a number of localities that were as good as his. The wild rice was perhaps the best of the flowers, but it was confined to certain districts. There had been no cessation of the honey flow, this year, from May to September, although it was generally pronounced a poor season. He sowed eight acres of black mustard (*sinapis nigra*, the seeds of which furnish the mustard of our tables). It furnished abundance of honey. He added that it was not uncommon for twelve natural swarms to issue from one hive in a season in Minnesota, and to be successfully wintered. The Society adjourned to 1.30 P. M.

Afternoon Session.

The society met at 1½ o'clock, the President in the chair.

The best method of increasing stocks was further discussed.

Mrs. E. S. Tupper said, as soon as she took her bees from the cellar in the spring, she aimed to increase them as fast as possible, by feeding, so as to have all her swarms made early. Early swarming is necessary in successful bee-keeping. The early swarms make all the honey. About the last of May she divided every hive, by taking out of each a strong colony. She thus doubled her stocks, and afterwards prevented farther increase. At the time of making the swarms, she had a young queen to give to each colony, which prevented after-swarming, but if allowed to raise their own queens they would swarm. This season she had made some late swarms after Hosmer's quart plan, and had twenty-two in the cellar to try.

In the spring she tried to have plenty of honey in the hive, and empty comb, to induce early brooding. As the comb was filled with eggs, she moved it apart and inserted empty comb. The queen will lay in the spring in proportion to the room she has, the supply of food, and the temperature of the hive. She closes the hive as tight as possible, as Mr. Hosmer does in the spring, and covers the top of the frames with paper, so as to retain as much heat as possible.

A. F. Moon had given his method before, but would repeat it. He had the best success in the spring by first equalizing his colonies, so as to make them all strong alike. When rapid brooding is secured, he goes among his hives and takes a frame of brood from each colony, with the adhering bees; from strong colonies he takes two frames. When enough are obtained, he fills a hive with them. He furnishes each new colony with a queen cell, which he has raised by taking queens from enough hives to raise a sufficiency of queen cells. He repeats the operation every three or four days, until he has increased to the desired number.

The next topic in order was:

"*How to secure the largest amount of surplus honey?*"

W. R. King, of Ky., moved to suspend the order of business for an explanation. Carried.

W. R. King, said he understood from the report of the committee that settled with the treasurer, that $158.76 had been paid for printing the transactions of the last meeting of the society. If so, did they not belong to the society, and was not each member entitled to one? He said he had applied for a copy and was told he would have to pay twenty-five cents for it.

H. A. King, of N. Y., said, that of course they belonged to the society, and they had a right to dispose of them to members gratis.

W. R. King moved that they be ordered to be brought in for distribution, which motion was adopted.

The discussion of the topic in the regular order, was resumed.

Mr. Hosmer was called for. He declined. He said he once had the misfortune to be a tax-collector, and had to collect a special tax. Every man he went to had to have the object of the tax explained, and he repeated the same tale so often that he got tired of it long before he collected all the money. He was afraid he had got into the same fix here, as he thought he had fully explained all he knew about securing honey several times.

Dr. Bohrer. In order to secure the greatest amount of honey, it was necessary, 1st. To have a good locality; 2d. Good seasons; 3d. Strong colonies of bees; 4th. A good movable comb hive of some sort; 5th. An extractor. To secure the most box honey, the closer the boxes can be put to the bees the better. Bees should be stimulated early in the season so as to get them strong. He fed syrup when necessary, but queens could be induced to commence breeding, even in the cellar, by opening the hives and handling the sheets of comb; it roused up the bees and set them to work. Bees may be set out sometimes as early as February or March; seldom has any in his cellar in April. Carries them out in the day time.

Mr. Tupper thought there was less confusion among the bees when they were set out at night.

Dr. Bohrer. If the weather gets cold again after setting them out, he takes them back.

W. R. King, of Ky., said he got two hundred and eighty pounds of comb-honey from one hive of bees. They were gray bees, not Italians. The honey was in frames, not boxes. All the comb they had was nine frames full, with strips of comb on the others for guides. The hive had twenty-four frames in all, on the principle of Adair's and Gallup's "New Idea," but the model of the hive was in the patent office before they published it. The bees made all the comb for the surplus except the strips. As the combs first given were filled up, he spread them apart in the middle, and inserted between them the empty frames with comb-guides. If a top apartment was used on the hive, he preferred to have it all in one, because if divided into two or more, it required more bees to keep up the animal heat necessary to keep up the temperature in so many apartments. Bees will store more honey in a single chamber than in many, and he found that if top boxes were more than seven inches deep, the bees were slow to commence work in them, as they had to go too far from the normal cluster.

Mr. Wilkinson, Ia. Will bees construct comb from sugar syrup as well as from honey?

Dr. Bohrer. Had bees to build comb when fed on syrup in the winter?

Mr. Moon. Prepares his honey-boxes with pieces of comb in them, which induces the bees to begin work. He gets his boxes as close to the cluster of bees as possible. In answer to Mr. Wilkinson's question, he said, he once kept bees in a dark room for fourteen weeks, and had twenty boxes filled with honey; it was all deposited in comb made from sugar alone. He exhibited it at the fairs, and took premiums with it as the best honey.

Mr. Southworth, of Ill. Had a considerable quantity of comb and honey made from sugar during the past season.

Mr. Moon was at Mr. Southworth's and assisted him in feeding the sugar syrup to his bees. The honey from it was taken to the Illinois State Fair, and had the premium awarded to it as the best box honey.

Mr. Shipley made syrup of A, No. 1, coffee sugar, and fed it to his bees in troughs, after cold weather, filling the troughs with a quart of the syrup twice a day. The bees took it all, and thus he strengthened up all his weak colonies.

Mr. McFatridge, of Ia., moved his bees to the pasturage. He put on upper chambers when he moved them to a poplar grove. When the linden bloomed, he moved them to a linden wood. Sixty hives gathered a ton of poplar honey, and two thousand four hundred pounds of linden honey.

Mr. Mitchell tried two colonies of bees on Mr. Hosmer's plan, two years ago. Strengthened them by early feeding, and they stored a surplus from fruit blossoms. Threw it out with an extractor. He kept no account of the quantity, but the yield was immense.

Mr. Wheeldon, of Ia., thought there should be more caution in setting the example, or advising the making of honey from sugar. Many persons suspicioned extracted honey now, and if the idea gets out that beekeepers are making it out of sugar, it will be further injured in reputation.

Mr. Merrill. This matter of selling molasses for honey, and the statement going out that such honey has taken premiums at State fairs, will degrade bee-keeping and injure the business of honest beekeepers.

Mr. Southworth said he did not make a business of having honey made in that way, nor had he ever sold any of it. When it was exhibited at the fair, it was tasted on the ground by the awarding committee and others, and pronounced the best honey they ever tasted.

Mr. Moon. Every well informed beekeeper knows that honey cannot be profitably made from sugar at the present prices. The waste is so great, that it costs too much. If sugar could be had for three cents a pound, it might pay for the labor, but there would be no profit. He did not speak of it to recommend it to beekeepers, but to convince the gentleman who asked the question, that bees could produce wax from sugar.

Dr. Lucas said, in 1871, he took enough honey from his apiary, in two months, to pay for his bees, queens, hives and extractor. Without the extractor, he would have brought his apiary in debt. The extractor will pay. The pure extracted honey is more healthful than the comb honey. Wax is indigestible by the human stomach, and is injurious. There is no acid that will dissolve it.

Mr. Wilkinson would not advise feeding sugar to be stored as honey, but it might be profitably used early in the season to have comb constructed to hold the honey from flowers.

The business committee made an additional report, which was adopted.

The time and place for holding the next meeting of the society was referred to the business committee.

Mr. Hosmer introduced a resolution recommending to the beekeepers of America, a list of journals and publications devoted to bee-culture, which, after some discussion, was referred to the business committee.

The next topic was:

"The best method of wintering bees, and their spring management."

W. R. King said the south needed information on this subject. A great many things that were necessary for success in wintering bees north, were useless at the south, and their management differed in many respects. At the south the bees wintered themselves. Mr. Hosmer's or Mrs. Tupper's method was of little value at the south, where the winters were mild and short. He would like to have General Adair give his views of this question.

D. L. Adair said it was true that the management of bees necessarily differed with climate and locality, and there was not the same necessity for housing bees in the south as there was in the extreme north. It was better to do it in every climate where flowers did not bloom the whole year. There was no more difficulty in keeping bees in depositories in the south, than at the north, and while, perhaps, there was not the same necessity for it, it was resorted to with advantage. But few beekeepers would take the trouble to do it, as their bees wintered well out of doors. Mr. Moon had said that if bees could fly out once in three weeks, they would escape the bee disease. Now, at the south, even in Kentucky, there was seldom three weeks together that bees could not fly out, yet, in 1868, the disease was very fatal over a large part of the south. The sudden and repeated changes in the weather at the south, he considered were injurious to the bees, and could be avoided by housing.

Mr. Zimmerman visited Dr. Hamlin's in 1871. He arrived there on the 9th of March and found the bees flying out. He concluded that the bees flew out too much and too early, and that they needed housing to restrain them.

I. Z. Smith, Weston, O., said he had built a wintering house, 26x12 feet, and 10 feet high, with double walls filled in, with an 8 inch square hole, top and bottom for ventilation. Has in it fifty-two colonies.

Dr. Bohrer thought Mr. Smith's house a good one. He had lower ventilation in his own house, but had never been able to see its use, as we know that bees winter well in cellars, where there is necessarily no under ventilation. It is too much the case, that the people cannot be made to understand the advantages of housing bees in winter. Gen. Adair had said that the beekeepers of the south could not, many of them, be induced to take the trouble to put bees in houses. The same was true of the north, but its advantages were so great north and south that he urged it upon all.

The business committee reported a resolution locating the next annual meeting of the society, which after amendment, was adopted as follows:

Resolved, That when this society adjourns, it adjourn to meet at Louisville, Kentucky, on the first Wednesday in December, 1873, at 10 o'clock A. M.

The society then adjourned.

EVENING SESSION.

The society met at the usual hour, President Clarke in the chair.

The business committee, by Seth Hoagland, chairman, reported the following resolution, which was adopted.

Resolved, That the president of this society be authorized in its name and behalf, to address a circular to all the beekeepers of this continent, urging the formation of neighborhood, county, State territorial and provincial associations, auxiliary to this society.

The order for the evening was, "The Question Drawer." It consisted of a series of questions which had been handed in to the president by members, and which Mrs. Tupper was requested to answer, but which would, also, be open for general discussion.

Question 1.—The first question was: "Is the rocky mountain bee plant profitable, and how should it be cultivated?"

Mrs. Tupper said Mr. Terry had sent her seeds two years ago, which she planted early in the spring. It should be planted in the fall. She planted one-half acre. It blossomed in May, and continued till frost. It came up again the next year. She considered it a good plant for bees. Its botanical name is *Polanisia purpurea.* It is an annual, but re-seeds the ground, and once sown, comes again each year from the seed. She considered it valuable, even as an ornamental plant. She planted it in drills, and also broadcast, with equal success. She had planted borage, and could say as much in its favor as a honey plant, but it is a bad weed.

M. L. Dunlap. The plant is *Polanisia purpurea*, of the western plains. In Colorado it grows from three to four feet high. It has large seeds, and makes good chicken feed. He had sent out seeds all over the country. It blooms all summer, from the middle of May till frost. It promises to be more valuable for honey than any other plant. It is native to the dry plains, and in favorable situations, the stalk attains a diameter of one inch. It would be a bad weed if so used, but can be easily eradicated. It grows best in damp locations, and grows vigorously all along the waterways in Colorado. It is described in the botanies as only growing a foot high.

A. J. Pope has had it growing for two years. Cattle will browse on it. Is easily eradicated, and is not dangerous as a weed. It produces an abundance of seed.

Question 2.—"How far have Italian bees been known to fly in a swarm before settling?"

Mrs. Tupper had them to go eight miles from her apiary. Had heard some reported as going thirteen and fourteen miles.

D. L. Adair reported a small swarm or nucleus as being found more than fourteen miles from his apiary, when his were the only Italians near to where they settled.

N. E. Prentice knew a swarm to come from Kelley's Island to the mainland, a distance of seventeen miles.

Aaron Benedict said when he went to Kelley's Island there were no black bees on it. While there he found a black swarm that must have come from the mainland, a distance of, at least, twelve miles.

W. R. King asked if bees on flying off did not keep in the same direction invariably.

Mrs. Tupper. They do nothing invariably.

Mr. Hawkins knew of a swarm that changed its course twenty degrees.

Mr. Southworth had a swarm that went straight about fifty rods and then turned at a right angle.

D. L. Adair followed a swarm through the woods for several hours and saw them change their course at least twenty times.

Question 3.—"Why do Italian swarms leave the parent hive without first filling themselves with honey?"

Mrs. Tupper. They did not seem to prepare for swarming in all instances as the black bees do. They often swarm before any queen cell is started, when the hive is very populous. Many times they issue without filling with honey. They seem to swarm from the impulse of the moment. The swarming fever comes on suddenly. She could give no reason for it.

Question 4.—"Management of extracted honey. Will it sour if not heated?"

Mrs. Tupper never had seen a spoonful of sour extracted honey. She takes it out when nearly ready to cap. In twenty-four hours a scum will rise, which should be taken off. It does not come again. Dealers will not buy boiled honey. Basswood honey is not as thick as most other honey. It should be left in until about to be sealed. Golden rod honey is denser.

Mr. Southworth had had enough of boiled honey. It injures it very much, and does not prevent candying.

President Clarke said that he was reported in the proceedings at Cleveland as having recommended boiling honey, whereas he only advised gradually heating it after candying, to restore it to a liquid state.

Question 5.—"Is there any means by which we can call back swarms, or settle them?"

Mrs. Tupper. The old remedies she thought of no avail, but flashing the sun on them by the reflection of a looking glass would cause them to settle. She had seen conclusive proof of its efficacy this year.

H. A. King said that to run ahead of a swarm with a pail of sand, throwing handfuls of sand among them, would confuse the bees, and cause them to settle.

W. R. King followed a valuable Italian swarm three-fourths of a mile, and fought them nearly an hour with dirt, by throwing it among them, and thereby settled them. Had several times seen them brought down, when flying off, by shooting a shot gun at them.

I. W. Winder said cold water thrown among them was effectual.

Seth Hoagland had tried throwing dirt without effect, until he learned the fact that there is always a convoy of bees ahead of the main swarm. If they are confused in any way, it has the effect to settle them. He had used the Hydropult, also, with effect.

S. P. Shipley said he never lost a swarm of bees by going off. When he knew of them swarming, he whistled them back. Had last season a neighbor to come in and tell him that one of his swarms was going off. He stepped out and whistled for them, and they came back and settled, although they had got some distance.

N. E. Prentice. If you can only get ahead of the swarm and confuse the advance guard, they will settle. Rattling behind them does no good.

Dr. Lucas related an instance in which he saw a swarm in full flight, arrested by a bright flash of lightning, causing them to descend quickly.

A. F. Moon never made noises or threw dirt, but when he sees they are going away, water thrown on them will settle them.

Dr. Hamlin had tried dirt and sand and other things, and was of opinion that anything that would confuse them had a tendency to stop their flight.

A. L. Williams of Westville, Ia. Had never tried whistling them back, but had repeatedly, ever since he was a boy, stopped them by getting before them and shooting back at them.

Mr. Southworth. Hived one swarm four times, and the last time they came out they clustered on a bush and he left them there at night. During the night they disappeared.

Question 6. "Is there such a thing as honey?"

Mrs. Tupper. Honey is generally defined to be a secretion of plants, which is gathered from the flowers by the bees.

President Clarke. Some scientists think that bees *make* honey. That after they gather the nectar from the flowers, it undergoes a change in the honey sac, by coming in contact with formic acid; while others contend that they merely gather it, and deposit it in the comb cells without any alteration in it.

Mr. Tupper said:—A convention of German beekeepers had discussed the subject and decided that there was no chemical change in the substance, that the bees gathered from the flowers, unless the flight of the bees operated mechanically and had a kind of churning effect on it.

Dr. Borher said, some contended that *formic acid*, which was the poison ejected by the bee into the wound made by stinging, was mixed with it, but that could have no effect, except to change the taste. But honey undoubtedly undergoes a change after it is deposited in the hive before sealing over, by the evaporation of water, and the peculiar odor which pervades the hive.

Mrs. Tupper. In Connecticut, the honey gathered from certain plants was when first gathered unfit to eat, on account of its acrid taste; when sealed over it was clear of it.

Dr. Lucas agreed with Mr. Dunlap, that what we know least about we can talk most about. He thought that the honey sac was only a receptacle in which to carry the honey to the hive, and it had no appendages or glands that indicaded that any chemical change could be produced on the honey.

President Clarke wanted to know if there was no change produced in the sweets gathered by the bees, how it was possible for Mr. Southworth and Mr. Moon to pass their sugar honey for a good article.

Mr. Moon, said he took the premium at the great International Fair at Chicago, in 1859, on honey produced from feeding sugar syrup, and one of the awarding Committee was so pleased with the honey, that he thought he was entitled to all three of the premiums.

(*Note by Reporter*. It is perhaps due to Mr. Moon to state, that after the adjournment of the society, Mr. M. suggested to me that he was not explicit enough in the foregoing statement, and the facts were, that the honey was gathered when basswood was in bloom, but was not yielding much honey, and he fed them loaf sugar syrup, to assist them in filling out the boxes. He fed about 30 pounds of loaf sugar to a colony that was making the whitest honey out of 70 in his apiary, and the largest part of the honey exhibited, was sugar syrup.)

Mr. Southworth said his bees were flying out and getting some honey when he gave them the sugar, and the honey was not all made of sugar.

D. L. Adair said that there certainly was a change produced in the substance stored by the bees, as was apparent in the taste. He instanced bees storing the juice of apples and other fruits, and pure sugar syrup stored by the bees, obtained the flavor and aroma peculiar to what is known as honey. He did not think that the distinctive aroma of honey was derived from the flowers, but that the sweets absorbed the scent from the atmosphere in the hive. It was well known that many substances, such as oils and sugars, would appropriate the scents or perfumes in the surrounding air, and any one that had opened a bee hive, would know that they gave off a scent, as rats and other animals that inhabited holes and close dens. This was absorbed by the liquid sweets, and gave it its distinctive flavor. It is evident that the flowers could not do it, as the scent or perfume of flowers differed widely from that of honey and from each other.

Question 7.—"Where two swarms of bees settle together, how do you separate them?"

Mrs. Tupper. If put into a large box, where there is room to form separate clusters, they will separate themselves.

L. B. Butler of Woodbine, Iowa, said he scattered the bees along on the ground and they would soon form separate clusters around their queens.

Mr. Moon separated them by putting them in as many different hives as there were swarms, a few in front of each at a time, so that he could see that each got a queen.

Question 8.—"How do you prevent natural swarming?"

Mrs. Tupper. With black bees, if the old queen be taken out and a young queen given them just before swarming time, it will prevent swarming, but Italians have several swarming fevers during the season. Taking out a card of comb at intervals would prevent it.

Dr. Lucas said in hiving new swarms, a card of brood would not always prevent them from swarming out again, as he had a swarm to desert twice under such circumstances before they became contented.

Question 9.—"Is catnip profitable for bee pasturage?"

Mrs. Tupper thought that no plant should be sown that had not more uses than for its honey.

W. R. King, of Ky. In Trimble Co., Ky. he saw honey gathered abundantly from catnip. He thought it valuable, and advised sowing it in waste places, and along the road side.

Question 10.—"Do bees make honey?"

Mrs. Tupper. That was in effect answered under question 6.

Question 11.—"How many colonies of bees did you go into winter with in 1871, and how many did you loose during the winter of 1871-72?"

Mrs. Tupper put 84 into her own cellar and wintered all of them. One proved to be queenless and one was weak. These she united with other colonies. She put 20 colonies each into two other cellars, and lost them all.

Question 12.—"As the comb cells are nearly horizontal, what prevents the honey from running out before being capped over, and can this principle be applied to domestic purposes?"

Mrs. Tupper. The cells are not exactly horizontal. The honey was held in by capillary attraction. She saw no use the principle could be applied to for domestic purposes, further than is already the case.

Question 13.—"What is honey?"

D. L. Adair said, strictly speaking, there was no distinct substance that could be called honey. The bees gather from flowers, from the different sweets know as honey dews, and from the saccharine juice of fruits and plants, substances that consist chiefly of sugar in some of its forms, mixed with other secretions and essential oils, and store it in the comb cells, and it is called honey. It necessarily varies widely, depending on the source from which it is derived. All honey is sugar containing vegetable substances in solution with it. Sugar in all three of its forms is in a general sense, the sweet principle of plants, fruits and trees.—Cane sugar, fruit sugar and what is known as grape sugar vary but slightly in their constituent elements and can be chemically converted into each other. They differ only in the proportion of hydrogen and oxygen or the elements of water. Bees will gather and store up anything that sugar in any of its forms is mixed with, so as to give a decided sweet taste, and while it may be true that in the process of gathering and transferring to the hive, no chemical change takes place, they mechanically change its taste by its absorbing the scent peculiar to the hive and often change its consistency by a process of evaporations of any excess of water.

Question 14.—"Is it advisable for beekeepers who keep bees on a small scale to have a honey extractor?"

Mrs. Tupper thought it would pay any one however few colonies he had. When bees refused to work in boxes, by taking out all the honey from below with the extractor, it would stimulate them to work in the boxes, and the extracted honey in that case was a clear gain. Uses a tent, when no honey is being gathered, to prevent robber bees. Found the tent useful for many other purposes in the apiary.

W. R. King. Is there not danger in recommending too general a use of the extractor? In many instances harm was done by an excessive use of it.

Mrs. Tupper thought the same objection could be made to everything used about beekeeping. Everything could be carried to extremes.

W. R. King. Thought there should be an expression of opinion from the society on the subject, as he had known great damage done by injudicious use of the extractor.

Mrs. Tupper did not think the difficulty could be remedied by any action of this society, as specific directions could not be given as to how and when to use it. Each would have to learn for himself. She said it should never be used on comb that had brood in it, in any stage, as from careful experiment she had ascertained that in every instance the brood, even after it was capped over, was destroyed.

The society then adjourned.

FRIDAY'S PROCEEDINGS.

The society met at 8 A. M., President Clarke in the chair.

The business committee reported the following resolutions, which were severally adopted:

1.—*Resolved,* That our thanks be tendered to the several railroad companies and hotelkeepers, for reduced fare and boarding.

2.—*Resolved,* That the thanks of this society be tendered to the judges of the Supreme Court of Indiana for the use of their court room.

3.—*Resolved,* That the janitor of the house be paid ten dollars for his services.

4.—*Resolved,* That D. L. Adair be paid fifty dollars for his services as reporter of this society.

5.—*Resolved,* That the thanks of this society be tendered to our worthy president, Rev. W. F. Clarke, for his able opening address, and the impartial manner in which he has presided over our deliberations.

W. R. King said he understood from the action of the society yesterday, that the printed reports of the Cleveland meeting were to be brought in and distributed to the members, but it had not been done. Why not?

H. A. King said Mr. Schofield informed him that he had only been paid for what supplied the actual members, and that the balance of them were his property, but that any of the new members could get a copy by calling on him for it.

The regular order of business was then called, which was:

"Experience in importing and rearing Italian queen bees."

Mr. Lucas, of Ill., stated that beekeepers all over the United States had been imposed upon by one, J. A. Chevalley, of Switzerland, who had advertised Italian queens in the "American Bee Journal," and many had sent him money, from which they never got any returns. He had sent him two hundred and fifty francs, in a draft on Paris, which money Chevalley received from the bank, but had failed to send him any queens or give him any satisfaction. On inquiry in Europe, he was informed that he was entirely unreliable, and he thought the fact ought to be published by the society. He therefore offered the following resolution:

"*Whereas,* J. A. Chevalley, professor at the gymnasium cantonal, in Bellinzona, Canton of Tessin, Switzerland, has failed in every instance to comply with his promises made to importers of Italian bees, through the American Bee Journal, many having sent gold drafts, for which neither queens, money, nor satisfaction has been given;

"*Therefore, Resolved,* That the beekeepers of North America are hereby notified that we consider Prof. J. A. Chevalley unworthy of patronage as an exporter of Italian queens.

Mrs. Tupper said she had sent money to him also, and, although, she had a letter from him, acknowledging the receipt of the money, he sent her no queens.

J. W. Winder, of Cincinnati, O., sent him seventy-two dollars, for which he got nothing.

H. A. King said Mr. E. J. Peck of New Jersey, had also sent him money without getting any queens.

The resolution was adopted.

H. A. King offered the following resolution, which was adopted.

Resolved, That the thanks of this society be tendered to the Italian Bee Company, of Des Moines, Iowa, lately consisting of Mrs. E. S. Tupper and Mrs. Annie Savery, and also to Charles Dadant, of Illinois, for their efforts to make a large importation of Italian bees, which, unprofitable to them, in a pecuniary point of view, has been the means of furnishing pure stock to many parts of the country, from New Brunswick to Texas.

Dr. Hamlin, of Tenn., presented a dried specimen of *vesicaria lescurii,* a plant peculiar to the vicinity of Nashville, which he considers the best early honey plant, as it blooms in April. It comes up from the seed in the fall, blooms the next spring, and then dies. Is not troublesome as a weed.

President Clarke presented and read the following letter from Vice President W. D. Roberts, of Provo City, Utah, which was ordered to be printed with the proceedings.

VIRGINIA CITY, Nov. 4th, 1872.

To the President and Members of the North American Beekeepers Assaciation in Convention assembled.

GENTLEMEN:—Knowing the interest you take in the advancement of bee culture, I improve the present opportunity of making a short report of my labors in that direction. During the last six years I have imported into the Territory of Utah, over six hundred colonies of bees; and against the opinion of almost all the old settlers, have made a success of the enterprise. Utah has now proven to be among the first in successful bee-culture, in proportion to the amount of bees in the Territory.

I am now in the Territory of Montana for the same purpose. Have brought, on a wagon, thirty colonies of bees, from appearances, I will meet with less (if it is possible) encouragement here, than in Utah; but I am not discouraged, and am determined to prove to the Montanians that this is a good country for bees, and, after accomplishing the same good work in Idaho, I shall retire from the list of importers and content myself with the managing of a few colonies at my home in Utah. You will excuse me for not giving a description of the resources of this country for the honey bee. I would be glad to do so, but cannot, for the reason that it is winter here, and I have no way of knowing. I shall return in the spring and learn more of the country, and at your next annual meeting will endeavor to make a more full and complete report either in person or by letter.

Enclosed, please find one dollar, for which credit account of membership for 1873. If it is not enough I will remit the remainder immediately on ascertaining the fact. If I succeed in my enterprise, I shall next introduce the latest and best improvements in hives, honey extractors, and all other inventions calculated to assist the beginner in the management of his bees. Any person wishing to write to me, will please direct Provo City, Utah Co., U. Ter.

Wishing you a pleasant and profitable time, I subscribe myself, Truly yours,

Wm. D. Roberts.

President Clarke offered the following resolution, which was adopted:

Resolved, That the thanks of this society are hereby tendered to the proprietors, editors and reporters of the newspapers published in this city, for their courtesy and attention in publishing the proceedings of this body, and although in some cases, inaccuracies have crept into said reports, the nature of the subjects discussed, and the circumstances of the case, render this not surprising, and on the whole the general correctness of such reports is not materially impaired.

Resolved, That thanks are also tendered to such papers at a distance, as had the enterprise to send special, competent reporters, particularly the "Prairie Farmer," H. L. Emery, reporter; "Chicago Tribune," Miss Ella E. Dunlap, reporter; and "New York Tribune," Mrs. E. S. Tupper, reporter.

On motion, the reading of the minutes of this meeting was dispensed with, and made the first order at the next meeting.

Miscellaneous matters were then called for.

S. J. Pope said that if a queen should escape from a cage, all that was necessary to recover her was to stand still and she would return in a little while.

Dr. Lucas in examining a colony of Italian bees, found an old queen on one sheet of comb, and a young one on another, left both in the hive all night, and found both safe. Took out the old one. His experience was that a queen with clipped wings would not live more than two years.

W. R. King, in Tuscumbia, Ala., transferred forty colonies of bees. Some four weeks after in examining them he found a hive with two queens in it. They remained so four or five days. He took the old one out, but returned her; six weeks afterwards they were both still there.

D. L. Adair said when a queen becomes unfertile from old age, the bees cease to recognize or regard her as a queen, and she is tolerated as any worker bee of the hive. Her ceasing to lay is the cause of a queen to supersede her being produced, and to all intents and purposes, there is but one queen in the hive. He had known several instances, where the old queen remained in the hive for some length of time after the young one was produced, to take her place. In one instance, the old queen was five years old and not only had her wings clipped, but she had no more wings than an ant, showing that Dr. Lucas' conclusion, that a clipped wing queen would not live more than two years, was an error. He had a queen that he let Col. Shannon, of Lewisport, Ky., have, that whenever the hive was opened would fly out as if in great terror. She would return to the hive when it was closed. She finally flew out and got drowned in a tub of water. She was a pure Italian, and her progeny were perfectly gentle.

Mr. Shipley inquired if any one present had kept bees in a house, and if so, whether there was not more than one queen?

Mr. Hamlin once kept bees in a house for several years, but the moth got in and destroyed them.

Wm. R. King said there was a number of bee-houses in Kentucky, in Hunters' Bottom. In every one of them, the bees died out in a few years. On the opposite side of the Ohio river, near Vevay, Ia., there lived a gentleman by the name of ————, who had over one hundred colonies in houses, but they were in frames. He sells more beautiful honey than any one in that part of the country. His houses have double walls and had about fifteen colonies to each house.

Mr. King described at some length the peculiar management of the houses, by which the owner claimed to prevent swarming, and to secure quantities of honey, but as there is a patent on the main features of the hive and house, it is omitted. The inventor claims that by a system of ventilators he controls the temperature in the house, so as to prevent swarming, and secure the greatest quantity of honey.

Dr. Lucas wished to say that Mr. W. R. King published a description of a fertilizing house, in the Bee Journals, and that he had built one, and followed all the directions in trying, to fertilize queens, but that he had signally failed in every attempt. He had, however, converted it into a rat-proof corn crib, by raising it up and putting under it posts covered with tin.

W. R. King said, we find in every undertaking, many that fail from not complying strictly with the conditions necessary to success. We know that queens are fertilized without flying, for we have numerous instances where queens, without wings, become fertile. Many fail, but that does not disprove the possibility of success. He stated in the Bee Journals that he succeeded with twenty-five queens out of twenty-seven, which was true. He explained at some length his experience in the matter, and the probable causes of failure and success.

Mr. Lucas claimed that he had complied with all the directions given by Mr. King.

D. L. Adair was called for, and stated that he had given at Cleveland, his experience, and had seen no cause to retract anything he said there. He had never tried the process advocated by Mr. King, and therefore could not give an opinion. Some queens he had no difficulty in fertilizing, while others would not submit to the restraint. For instance, such a wild queen as he had spoken of to-day, could not be controlled, but there was one advantage in his process, which was that there was no danger of losing a queen. If he failed to secure fertilization in confinement, he had them in a condition to use the Köhler or Benedict process. Dr. Lucas' queens may have been of a temperament that would not submit to confinement—on the whole, he would not recommend the practice, and did not attach much importance to it, as it required an amount of attention, and knowledge of necessary conditions, that but few would practice or attain, and it was possible to secure pure fertilization by other methods that would not take so much time and care.

W. R. King coincided with Mr. Adair in what he had said of the conditions and the general use of the process.

Mr. Wilkinson asked, Are the worker bees necessary to the life of the queen? or can a queen live without them?

Dr. Lucas. Had a queen in a cage in a hive for two months.

Mr. A. J. Pope. Had received a queen by mail, without any accompanying workers.

Dr. Hamlin. Had carried a queen on his person, for five days, in a cage.

Mr. Southworth. Had kept a queen four days without workers.

D. L. Adair said a single bee, queen or worker, could not live for any considerable time, out of a regularly organized colony. When separated from a colony, death was only a question of time. A colony was a unit, and all its members were necessary to the security of the others. Whenever a colony of bees was reduced in numbers below a working standard, they died out. That standard was enough bees to form a cluster to protect the brood nest, and to feed the young in such numbers as to produce young bees faster than the old ones die off.

Mr. Hulman. Had kept queens caged, laying on the frames, three or four weeks.

Mr. Moon. Had kept queens, a number at a time, in Dr. Davis' queen nursery, in a hive for three weeks.

N. C. Mitchell. The bees will feed one thousand queens in one hive, as long as they are gathering honey, but will neglect them after honey gathering ceases. Had kept twenty-five at a time, caged in one hive, on the frames above the bees.

Moses Hadley, Plainfield, Ia. Had kept a queen in a cage, by herself, for three weeks.

Mr. Winder asked, will two queens agree, if confined together?

D. L. Adair. In Italianizing, gave two black queens to his boys. The boys put them together in a cage, to see them fight. They crawled over each other without showing any disposition to molest each other. They were kept in the cage for a day or two. The boys decided that they were not game stock.

Mr. Shipley said a good deal had been said about his whistling back decamping swarms, and he wished to explain upon what principle he based it. He noticed that the worker bees made a sound in flying that was peculiar to the workers alone. He noticed that the drones made quite a different sound, and that the queen made a whistling noise distinct from either. In whistling, he merely imitated the sound made by the queen. That was the whole secret. He instanced the fact, that if you bawl in imitation of the calf it will bring the cow to you, or imitating the cow, will call the calf. Hunters call up wild turkeys, by imitating the call of the turkey.

Dr. Lucas requested him to whistle as he did in calling a swarm, which he did, but the reporter finds it difficult to give it on paper.

President Clarke offered the following resolution, which was adopted.

Resolved, That official notices, signed by the president and secretary of this society, be inserted in the Bee Journals, and in all friendly periodicals, announcing the name, objects, admission fee of the North American Beekeepers' Society, and inviting beekeepers and others to seek membership; also, that official notices, so signed, be transmitted, in due time, to the bee and other journals, giving information of the next annual meeting, of railroad, hotel and steamboat arrangements, and urging a general attendance from all parts of the continent.

On motion of Dr. Lucas, D. L. Adair, W. R. King, and Dr. T. B. Hamlin, were appointed a committee of arrangement for the next meeting, at Louisville, with instructions to report through the papers in due time.

The society having concluded its deliberations, the president called on the Rev. H. A. King to close with prayer, with which he appropriately complied. After which, and the singing of the doxology, the president declared the North American Beekeepers' Society adjourned, to meet at the City of Louisville, Ky., on the first Wednesday, Thursday, and Friday of Dec., 1873.

◆

VEGETABLE AND FLOWER SEEDS.—Mr. J. J. H. Gregory, of Marblehead, Mass, is well known as one of the few leading seed growers in this country. He was the original introducer of the Hubbard squash and many other of our new and valuable vegetables. All seeds from him are warranted fresh and reliable. His advertisements will be found in this number, and we invite attention to them. His illustrated catalogue for 1873 (now ready), will be sent *free* to all applicants.

◆

There is to be an International Exhibition of the Industries of the World, this coming summer at Vienna, Austria. We trust the beekeepers of America will not neglect to do their share towards showing the world the progress made in the New World in Apiculture.

THE AMERICAN BEE JOURNAL.

Chicago, January, 1873.

To the Readers of The American Bee Journal.

My connection with the American Bee Journal ceases with the issue of the present number. While on the one hand I regret to part company with the correspondents and subscribers of the Journal, on the other hand I feel that it is best for the growing interests of apiculture in America that a person more able than I, and one who can give more time to the interest of the Journal, should assume its conduct. Such a one, I think, will be found in my successor, Rev. W. F. Clarke, of Guelph, Ontario, President of the North American Beekeepers' Society, a gentleman well known to the beekeepers of the United States as an able writer and an intelligent and honest beekeeper. I sincerely trust that the friends who have stood firmly by my father and myself during the trials through which the Journal has passed, will sustain Mr. Clarke in his new position. They will find him worthy of their confidence and support. I have turned over to him all the accounts and business matters of the Journal, and hence hereafter all business will be transacted by him. In closing, I wish especially to tender my warmest thanks to those kind friends who, during the past eleven months, stood by and supported me in the new and trying position that the sad dispensation of Providence, by which my venerated father was removed, called me to assume.

GEORGE S. WAGNER.

Salutatory.

With this number, as elsewhere announced and explained, the AMERICAN BEE JOURNAL passes into new hands. It will, however, continue the same as to character and aim that it has been from the beginning, and it will be the constant effort of the new Editor and Proprietor to catch the spirit and emulate the example of the lamented Samuel Wagner, its original founder and, until within a few months, its able and honored conductor. Our embarkation in this enterprise has been largely the result of solicitation and encouragement on the part of eminent beekeepers. Evidence of this is furnished in the requisition and extracts from letters which will be found elsewhere in the present number. That more names and letters are not given, results either from the absence of parties from the Indianapolis meeting, or from inability to communicate with them during the limited time that has elapsed since the change now effected was first proposed. We trust none will feel slighted or overlooked, but that all will be sure that a word of cheer and a proffer of help will be welcomed from any and every quarter. We especially hope that all who have any experiences to relate, or any suggestions to offer, calculated to promote the interests of bee-keeping, will communicate freely with us. As of old, the AMERICAN BEE JOURNAL will take a straightforward, impartial course, anxious only for the general good. It has no patent interests, and no personal ends to promote. We shall conduct it on the principles embodied in our inaugural address at the Indianapolis meeting, and shall endeavor to make it helpful to the beekeeper, whether his apiary be located in the inclement North, or in the "sunny South." Complaint has been made that the bee journals have not sufficiently attended to the peculiarities and demands of Southern bee-keeping. All ground for this will, we hope, be removed in future, so far as the AMERICAN BEE JOURNAL is concerned. Gen. D. L. Adair and Mr. Will. R. King, both of Kentucky, are under special pledge to watch over the apiarian interests of the South in the columns of this journal, and we expect at an early date valuable articles from them in this department of apiculture. We also invite contributions of facts, experiences, and counsels from our Southern subscribers generally. Several of the old-time correspondents of this journal are already under promise to continue their favors. Mr. George S. Wagner, we are happy to say, has engaged to furnish such translations of German articles on apiculture as may be of value to American apiarians. Aided by a host of earnest and friendly co-laborers, we shall toil hard to make the AMERICAN BEE JOURNAL all that its best friends desire it to be. We trust there will be a prompt payment of old scores and a quick renewal of subscriptions, and that each present subscriber will endeavor to get at least another. The number of unpaid subscriptions on the books demonstrates the wisdom and necessity of the *cash-in-advance* plan, and in no way can we be more efficiently helped than by its early and universal adoption. We trust also that advertisers will give the JOURNAL a generous patronage. Its rates are low, too low, we fear, to pay adequately, but we are disinclined to raise them until we can consult with those best fitted to judge in regard to the matter. Though we have faith in bee-keeping as a fairly remunerative business, it is as yet comparatively in its infancy, and few, if any, have made, or are making, such fortunes out of it as to justify high charges. We prefer, if possible, that we and our patrons should prosper conjointly, and would go upon the maxim, "Live and help live," which is a higher and nobler one than "Live and let live."

W. F. CLARKE,
Editor and Proprietor of the
AMERICAN BEE JOURNAL.

AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY W. F. CLARKE, CHICAGO, ILL.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

Vol. VIII. **FEBRUARY, 1873.** No. 8.

Novice.

Dear Bee Journal.—We have so many things to say, and so dislike to fill your pages with useless matter, that we hope you will excuse brevity.

Page 122. Thank you, B. J. B., the fact you have narrated certainly goes to show that bees may be more inclined to *work in boxes* in the Bay State hive than in the Langstroth. Had you used the extractor, you would have had a surplus from your other two hives as well. And if your stock were of equal strength, you should have obtained an equal amount from each.

Mr. Gallup first gave us this idea and some experience since has strengthened us therein.

In managing for box honey, you were dependent upon luck and chance, or the caprices of the bees; with the extractor you always have honey when you have bees. Are we not right, Mr. Gallup?

Same page. Dronings is making some mistake in regard to the teakettle feeder. As we use them, the liquid is kept in by atmospheric pressure, and they never leak, even when filled with pure water, if the frames are nearly level. We should always remove honey board to feed rapidly.

Mr. Alley, will you tell us what our friend should have done more to induce the bees to work in the boxes, *as you prepared* them for him, when they wouldn't.

Mr. Alley certainly means to invite those who failed with his hive to send in their report, as well as the successful ones, we feel sure he *meant* so to word his invitation.

Mr. Alley, our "favorite hive" always gives us a surplus *every season.* If weak we make them strong, *a la* "Gallup," and then when supplied with empty combs the "extractor" always gives us a surplus. Last summer, for the first time, we were enabled to give each colony the combs of the last one extracted, so that our colonies were soon all of nearly equal strength, besides shaking the bees directly on a full set of combs, from which the honey had been extracted, enabled them to commence work with scarcely one minute interruption. All new colonies, so soon as they had flying bees, were to take care of so much brood, were worked the same way.

If any one objects to this plan as being too much labor, we reply that we can surely put 100 lbs. in a barrel ready to ship in less time than any one can remove 100 lbs. in boxes.

Will Miss Katie Grim be so kind as to tell us what kind of an extractor she used, and whether she thinks it possible for her to have taken care of such a quantity of box honey in the time mentioned?

The word "large" should have been "long" up and down, as applied to Mr. Alley's frames.

Mr. Alley's remark, at top of page, "I have just the best frame for the honey extractor that can be got up," settles the question for ever.

(Will Mr. Adair talk to him about making such assertions as he did to us. Ain't it wicked for patent right men, too?)

Page 130. Please, Mr. Adair and Mr. Gallup, don't say any more that we do not move combs to give queen room, for we have done it invariably for several years, and, as all our readers know, have urgently advised so doing.

The Quinby stock was worked so, as well as you or Mr. Gallup could have done it, we think, and we forgot to mention, that we also extracted the honey from it once to give the queen room, when they were all full and *would not* go in the boxes.

Mr. Quinby just now writes us:

"You will please me by giving facts whether for or against me."

Will not friends Alley and Adair try and be as liberal. Mr. Adair, it is the first page or cover of "Progressive," that we object to. If we set ourselves up as an "oracle" we beg pardon, and will "git down" this minute. We have no rights for sale on "hive" or "teakettle," and if it is of any value to them, we hereby make everybody a present of an "individual right" to canvass; and we advise and give the fullest directions in this journal for every beekeeper to make his own "hives," "teakettles" and "quilts" at home, and after "three pages" "descriptive," if they still do not understand, we will, if desired, send samples, as we make them "to work from," and if Mr. Adair will ask his "carpenter," "tinner" and "wife" how much Novice makes on the articles at the prices mentioned, we think he will see how little motive besides accommodation, we have for advertising our wares in these columns.

When Novice asks you $5.00 or $10.00 for a piece of paper giving the privilege *to make*, or *use* after you have made, *or bought even at a fair price*, any implements in bee-culture, show him this.

Combs spread horizontally seem to be gaining considerable favor, and perhaps it is going to be better liked with the extractor than the two-story, in fact we think there is quite an advantage in enlarging the hive, gradually (by division board,) of this shape, but other disadvantages of roof, lumber, unwieldiness, etc., seem to over balance it. If they can be made cheap enough we are open to conviction, but please don't patent them.

Mr. Wurster, page 136, is certainly in error in thinking that revolving brood, sealed or unsealed, injures it. Every comb in an apiary, (even 1000), is always extracted, and very careful experiments show that no brood is injured, unless thrown out by being turned too fast. And we were amazed to see Mrs. Tupper state, in King's Journal, that brood should not be extracted, as it was of more value than honey. The matter can be tested in three days by any beekeeper, and we cannot understand why Mrs. Tupper was led into such an error.

Does extracting honey from brood combs injure brood?

Time, July, 1870.
Locality, Novice Apiary.

"Mr. Novice, there is trouble here, certainly, come and see."

"Well!"

"What does it mean that the brood is uncapped when it should be capped over."

"Should it be capped?"

"Most certainly, do you observe they are fully formed and should be nearly ready to hatch, see, many of them have commenced to turn dark. Now, are you sure *that extractor* has not killed them? Why do you smile, have you ever observed the like before?"

"Frequently in hot weather."

"And are you sure it is all right?"

"Quite sure, but to make sure again we will watch this colony. See, here are large patches uncovered and we once feared it was foul brood. or something wrong, but they always came out right."

Of course, subsequent examinations showed perfectly formed live bees, and we never have been able to discover that any injury has resulted to brood unless they are whirled out, which a little practice will always enable the operator to avoid.

When first using the extractor, six years ago, we gave the subject great attention.

Further facts on the subject will, of course, be welcome, but they should be the result of careful observations.

We should consider it impossible to give the queen sufficient room in the proper season, after all the combs were moved one by one in the center and filled, could we not use the extractor on brood combs.

Page 143. We are sorry we "cannot see" that Mr. Hazen has answered us. Will not Gallup try and make it plainer? It seems to us, in our simplicity, that Mr. Hazen's figures only make our query stand out the stronger.

We think we never said that we would risk 1,000 colonies in one apiary, but we really cannot find that fifty colonies give a smaller yield that ten per hive; we never have kept one hundred, but Grim, who has much experience of that kind, advises from fifty to one hundred, not more than the latter. Mr. Hazen why will you parade those deceptive figures?

Any beekeeper can *use all that is valuable in your hive*, and no law gives you *any power* to restrain them, and yet you do not scruple to receive and solicit $10.00 for "right to make and use," etc.

Will this work never be ended, and will the community never get better informed? Remove the top and two sides from any box hive, and pile honey boxes against the sides thus exposed, and on top prepared with guide combs, etc., and you have, when the whole is protected by an outer cover, the Hazen hive complete. If you can *prevent swarming*, in a good season, the boxes will often be all filled. Mr. Hazen is only one of the many, but he uses our columns oftenest in his advertising raids.

Page 137. Scientific. Supporting arms to corner are nearly $\frac{7}{8}$, metal rabbet $\frac{3}{8}$, which leaves $\frac{1}{2}$ inch between end of the hive and ends of frame, the distance we prefer for rapid work with the extractor. If, when working for box honey, bees build in this $\frac{1}{2}$ inch space, the ends of the hive can easily be made to approach nearer to the frame by rabbeting in the end of the hive $\frac{1}{2}$ inch or *more* instead of $\frac{3}{8}$ as we do,

Why don't we try a Bay State hive? Because it embodies no essentially different principle from Hazen's or Quinby's, and we are trying one of the latter, and because our beekeeping would then go back to luck and chance, and now it is not. We could, it is true, build a colony up strong at the expense of others and get box honey almost invariably, but a hive that would give us 100 lbs. box honey we think would give 300 extracted, and the labor in the latter case would be much less.

For box honey we should recommend Quinby's hive, unless it can be shown, by experiment, that Alley's tall narrow frames possess an advantage in inducing the bees to work more readily in boxes, which we very much doubt.

Shaking young bees before the entrance of such hives, from other stocks, *a la* Hazen, will certainly give large results, but could any one honestly claim that such a yield was the product of one hive. The depopulated stocks would probably die from "overstocking."

Mr. Gallup has, of late, given his mode of managing one or two stocks. Will he, through the Journal, tell us how he would manage an apiary of from fifty to seventy-five after the experience he has had from his late experiments?

Mr. Grim's articles are nearly all for the general treatment of a large apiary, and have been of double value to us on that account.

He writes us that he is strongly inclined to work his bees for box honey next season, unless prices for extracted improve.

We have now before us an offer of $13\frac{1}{2}$ cts. for 20,000 lbs. delivered in Cincinnati, so that we know something what we can depend on.

Our seventy-one colonies are now nicely housed on shelves one foot wide, placed six inches from the wall, so that the air may circulate all around and between them, and are as quiet and cosy as can be tucked up under their quilts.

In our remark in address to Michigan Beekeepers' Association, in regard to ventilation, we took it for granted that the bees had cloth quilts instead of honey boards, and said accordingly give them the same ventilation they enjoyed on their summer stand.

Nothing more,
From Novice.

Cullings from Novice's "Gleanings."

Our valued friend and contributor, "Novice," desirous of even more than that unrestrained liberty which he enjoys in these columns, has started an unpretentious little quarterly at twenty-five cents a year, which he entitles, "Novice's Gleanings in Bee Culture, or How to Realize the Most Money with the Smallest Expenditure of Capital and Labor in the Care of Bees, Rationally Considered." We offered to husband his "Gleanings" for him in the Journal, but he prefers to keep them in his own hand. He says: The "Gleanings" are a "hobby" of ours that you will excuse, when we tell you that we have decided to keep it entirely in our own name, and we think that perhaps the A. B. J. will be better off without the peculiar mode of managing bees that we propose in "Gleanings," viz: "Extractors and not box honey," &c., &c. We fail to see how the A. B. J. or any body else will be "better off without the peculiar mode of managing bees" Novice advocates, if, as of course he believes, that is the *best* mode. And as of old, so still there is the largest freedom within the bounds of courtesy, for all who have any "peculiar mode of managing bees" to set them forth in these columns. And, provided always that Novice does not stint his communications to the Journal, we can have no objection to his commencing the "Gleanings," or any other periodical, and we wish him the fullest success.

The first number of "Gleanings" is out; a neat little sheet, eight pages octavo, full of good things, from which we select the following:

TAKING MONEY WRONGFULLY.

One of the most lamentable wrongs in bee culture is the custom of taking money for a "right to make and use" a hive, knowing that the buyer could "make and use" a hive so nearly like it as to answer every purpose, without using a SINGLE ONE OF THE PATENTED FEATURES. It will be our especial aim to fully inform the public of all such transactions coming under our observation.

PROBLEMS FOR THE GENIUS OF OUR YANKEE BEE KEEPERS.

1st. Some plan by which coffee sugar can be made into solid candy as cheaply as we can make it into syrup, so that we can have it in cakes or bars to be laid on top of the frames under the quilt. The most careless bee keeper could then supply destitute colonies with a more wholesome food than honey, and see when they were out by simply raising the quilt. Perhaps our Southern friends could make us some such sugar. If dampened up with water and dried, the 'little chaps lug it off' out of the hive when it crumbles down one grain at a time.

2d. Is brown sugar any cheaper than No. 1 A. coffee sugar, i. e. in a dollars worth of each, could a chemist find more *pure sugar* in the cheaper article? If so, about how much? Can our Southern friends help us?

3d. By dispensing with the shaft in the extractor and making the frame larger, we can reverse combs inside of frame. Can they not be reversed *without making frame* larger? If we use folded tin strips instead of wire cloth, they need not come nearer the edge of comb than within one inch of each of its sides. Think of it.

4th. In tall hives in spring the brood cluster has generally to be enlarged downward; in long hives with small frames they are obliged to go over to other combs; while in long hives with long, shallow frames they are only obliged to move along horizontally on the same comb, and the latter has uniformly been most successful with us. We should like the opinion of all bee keepers who have no "*rights for sale*," on the above points. We shall publish the result in a table.

THE AMERICAN BEE JOURNAL.

We think most of our readers will agree that the *Am. Bee Journal*, published at Washington, now removed to Chicago, richly deserves to stand at the head of the list. It is now in its eighth volume, and having steadily kept the good of the people in view, it could hardly be other than of the greatest value to the Apiarian. We would most strongly urge beginners to get the complete back numbers and have them bound for reference. There is scarcely a disputed point in the whole science that has not been considered at length, and *pros* and *cons* given from practical experience of the leading bee keepers of the world. Terms, $2.00 per year.

BEE STINGS.

We really must decline to publish any of the thousand and one remedies for bee stings sent to us until we have more conclusive evidence that *anything* is of any avail. In the majority of instances the pain ceases in a few minutes whether any application be made or not, and when a remedy is applied it generally receives the credit if relief follows, if not, something used in a former case receives the preference. We say, extract the sting in such a manner (with the point of a pen knife for instance,) as to avoid pressing the contents of the poison bag into the wound, and then let it alone. Any irritation, such as rubbing the affected part, produces pain and swelling, so we repeat, '*let it alone*,' and get your mind on something else as speedily as possible, and all will be well.

HONEY COLUMN.

The sole end and aim of bee keeping is honey, or rather it should be, if not directly, indirectly. We may sell bees, queens or hives, but only that their possessor may secure honey thereby. It has been said that only 10c. has been offered for honey in the West, and yet in a brisk little railroad town in Ohio they retail extract honey at 45 cts. and comb honey 50 cts. Now can't those bee keepers West have a little more, and the good people of Xenia be supplied at a little less figure? We are going to try and get the two opposite factions acquainted and help them both if we can. We have done but little yet, but here is the result:

Messrs. Barber & Stout, No. 16 Main street, Cincinnati, will pay 13½ cts. cash, for 20,000 lbs., delivered in their city in securely waxed barrels. Barrels to be returned in good order when emptied.

Mr. W. H. Shane, Chatham Center, Medina Co., O., has 235 lbs. candied basswood honey that he will sell for 20c.

Mr. J. Pratt, Mallet Creek, Medina Co., O., has 1,000 lbs. nice extracted honey which he offers at 18c.

If any one has honey they will sell less than the latter price, we will publish it in our next gratis; and if any one will pay more than Messrs. Barber & Stout, we will also publish their offer. Don't write to us, but write to the parties mentioned; and we would suggest that samples of honey may be sent cheaply by mail in small tin boxes, such as watch movements come in, to be had of any jeweler. Make the joint tight with melted wax. Good honey, we believe, is always candied at this season of the year, or should be at least, and it is easily shipped in this state, and will keep good any number of years, so that the grocers need be in no fear of losses in that direction. If some one dealer in every town would advertise good honey for sale the year round, could all of our bee keepers supply the demand, even if retailed at 25c?

[For American Bee Journal.]

The December Journal.

The first object that attracts our attention this month is Novice "pitching in" as usual, only he's got his coat off this time. We pass his article by without comment, except the last paragraph, for we really fear that we shall not have time to say what we wish to unless we do. You *meant* us, did you not, friend Novice, while you were talking to "Mr. Burd," on page 122. We take it for granted that you did, although that is not exactly our name.

Now, Mr. Editor, we very much dislike this "personal" style of writing which some of your correspondents seem to glory in. We have ever tried to refrain from speaking of any one in print, unless we had a word of commendation for them. What measure of success has attended our efforts we leave our articles to answer for themselves. But it seems that Novice has determined to try *his* skill in compelling us to deviate from this rule, and if you will pardon us, Mr. Editor, for making this article an exception, we will talk to Novice a few moments. He first expresses astonishment at what we said in a former Journal, but we are not surprised a particle at what he says in reply, for it is only a supplement of very many of his articles in the back numbers of this Journal. As he has gone outside of these columns to refer to that which has no bearing whatever upon the subject under consideration, we presume there are many of our readers who do not comprehend what he is driving at, so we will present "our idea" of this subject, taken from Novice's standpoint. After reading our article in October number of the Journal, we hear him soliloquizing somewhat after the following fashion: "Well now aint that too bad. After I had spent so much time in getting the best hive in the universe to be told that its not as good as *his* hive. You see I wanted to fill my pocket from the *hard cash* I had so fondly anticipated that it would bring me—it would be for the general good of fellow bee-keepers too, you know. Now some stringent method *must* be employed to stop this business of comments. (Here he doffs his coat.) Attention all. Here is the way we propose to do it. Listen. We'll give *him* such a hit that will lay him out so completely *hors de combat* that he will never *dare* to have the presumption to say anything more hereafter. (He drops the Journal.) So there, I'll fix him yet. I'll kind o' express surprise, and leave the readers of the Journal to infer that he has given my 'ideas' to the world as 'his own.' (Novice sweats profusely.) There, now, that's as good a way as I can possibly get out of a tight place *this* time. (Breathes more freely.) So, here goes. I have vanquished Quinby from the field aforetime, and silenced Gallup's guns, too, and now I'll annihilate Burch. Wont that be jolly."

Kind reader, "*did you ever.*" As Novice has plainly hinted that we have purloined his language by giving it to the world as our "own ideas," we hereby challenge him to substantiate that inference. It is true that we have written for the press somewhat extensively, but we defy Novice to produce a single sentence from an article of ours where we have knowingly purloined the language of others by giving it as our "own ideas."

Talk about our explaining that (three column) bee hive. Why, friend Novice, did you not *know* that we gave a description of it to the world, "and the rest of mankind," too, *nearly a year* before you did? Pray tell us, Novice, *where* did *you* get your "ideas" concerning it?

When you have answered, fairly and candidly, our questions in this and the back numbers of the Journal, we will inform you with much pleasure of the many essential things which our hive embodies that makes it so much *more desirable* to the apiarian than yours.

Novice has told us that he is desirous that "our large family" should live in peace with each other. Yet who has been more instrumental in stirring up discord by the indiscriminate manner in which he has "pitched into" everybody and everything that did not coincide with his "own ideas." He complains that other people use these columns for the purpose of selling their patent rights. But who has more often used "the large liberty our editor so generously allows" for the purpose of "extolling patent hives," and who has more carefully and "cunningly" worded their articles with a view to create a demand for their own wares, and this, too, under the guise of "good of fellow bee-keepers." Will he who has so strenuously insisted that all progress in bee-culture is no progress at all unless it has its origin in that two story "Simplicity (Langstroth) Bee Hive," and culminated in that Apple-Paring-Geared, Stationary, Bung-Hole, Honey Extractor, tell us?

"O, consistency, thou art," etc.

We wonder if friend Alley supposed that Novice would not "pile" his Bay State hive in the same manner that he has all other "naughty" things? Who does not know that the best hive in the universe would not yield an ounce of box honey in any locality unless it was properly managed?

How many hundred pounds do you suppose could be obtained from that *three column* hive, even with a "molasses gate extractor," if the owner did not go near it all summer?

And how could you suppose, Gen. Adair, that Novice could find any room for the "New Ideas." How many years more will it take for people to learn that Novice has got his head so completely turned in that "Stationary" Extractor, his time so fully occupied with "wholesale feeding," and his "ideas" *so* completely fortified with "Simplicity" stories "piled (high) all around" him, that it's a useless undertaking to try and beat in a "new idea?"

For fear that Novice may stigmatize others, as well as ourselves, who advocate a "theory," as not being "sound thinkers," we will here say that one of "our hives" which does not stand more than a thousand miles from where we now write, managed somewhat after Gen. Adair's plan, has given *more* pounds of box honey in one season than he ever obtained from his "Simplicity" with the extractor in the same length of time. Of course we do not wish to be understood as saying that we accomplished such a feat, certainly not; because we really fear that Novice would accuse us of giving his "ideas" as "our own."

Speaking of hives reminds us that Novice said something about its being "too cheap and simple, etc." Now while he is taking the trouble to hunt up something to substantiate his inuendoes wont he take the additional trouble to ascertain and tell where we ever said anything about any implement used by the apiarian was, or could be, too cheap or simple. But please *do* quote a little more correctly than you did from *Progressive Bee-Culture.*

And for fear that Novice may "worry" to such an extent, before he is informed of those "desirable things," that even his "better half" may find it to be impossible to console him, we will say that our hive is cheaper than his, requires less skilled labor for its construction, and that we can manipulate our frames easier, quicker and safer, and secure *more honey*, whether it be boxed or extracted, *every time, too.*

In conclusion, we wish it to bedistinctly understood that we have written the above with the best of feeling toward Novice. Wehave ever spoken kindly of him, and hope that he will not compel us to ever do otherwise. Had he not placed us in a *false position* before the bee-keeping world, we never should have written the above. And we prefer that this matter shall drop here, because "personalities" are apt to do more harm than good. But if Novice still insists upon "braying or barking" at those who cannot honestly coincide with all of his "pet ideas," he must abide by the consequences. "A word to the wise," etc.

Further than this we have no apology to make, except to express our regrets to you, Mr. Editor, for having occupied so much of your space with a "personal." There are many things we would like to have said which we have not the time to relate now, but will try and do so next month.

Herbert A. Burch.

South Haven, Mich., December 7, 1872.

[From Oskaloosa (Iowa) Herald, Nov. 28, 1872.]

Bee-Keepers' Association.

Bee-keepers Association for the southern district of Iowa, met on the 13th and 14th of November, 1872, at Oskaloosa. Association called to order by the President. Minutes of last meeting read and adopted. Questions for discussion were handed in and numbered in regular order. After some informal talk on the past season of the bee business, adjourned to meet at one o'clock p. m.

AFTERNOON SESSION.

Question No. 1.—What is the best method of transferring, and why not as well in March as in warmer weather?

Answer.—Drive the bees out by the drumming process from the old hive into a box prepared for the purpose, then remove a sufficient quantity of worker brood comb from the old hive, putting the same nicely into your sash, after which place the sash in the new hive, setting your box of bees in front of the new hive, empty them out and see that they all go in their new home. Transferring should always be done at such times as will enable the bees to gather stores from the adjacent fields, to subsist upon and also to make new comb; and, as it takes quite warm weather for bees to elaborate wax, consequently the operation should be performed in warm weather, when honey is comparatively plenty.

Question 2d.—Is there any such thing as bee cholera?

Answer.—Not in the west. But there is such a disease as dysentery, supposed to be caused principally by a poor grade of stores gathered late in the season.

Question 3d.—Can a neighborhood be overstocked?

Answer.—It can some seasons, but with ordinary seasons it is not at all likely that any of us will live to hear that cry.

Question 4th.—Is it necessary to have winter passages when bees are kept where it does not freeze?

Answer.—By Ingels, Batchelder and other, *it is not.*

Question 5th.—How can I prevent my bees from building drone comb?

Answer.—Remove drone comb and insert worker comb, and all will be right.

Question 6th.—How shall we procure long-lived queens?

This seemed to lead into deep water. But few seemed willing to speak on the subject. Samuel Ingels was called out and gave his experience at length, stating that a queen cell built and the queen reared under the immediate care of the mother, proved the most prolific and longest lived. Mr. Woodward called for his reasons. Mr. Ingels gave as his opinion, that when bees prepared to send out natural swarms, that there was no change made in the treatment of the egg, from the time it was deposited, always being treated with a view to royalty, whereas if they were forced from the necessity of the case to rear a queen that it would partake to a great extent of the nature of the worker bee, and as a consequence would neither be so large, long lived or prolific.

Question 7th.—How can we get rid of fertile workers?

President said he caught them and took their heads off, and furnished the colony with a fertile queen, and in this way he generally succeeded, but not always. Mr. Ingles said he took the hive about fifty yards from the old stand, and taking out each sash brushed off the bees, he then returned them placing the hive on the old stand, the bees by this time having nearly all returned, leaving the fertile worker to perish, as she knows nothing of her original locality. He then supplied the colony with a fertile queen in the usual way.

Question 8th.—What is the best test of pure Italian bees?

Answer.—Shape, color and general appearance.

Question 9th.—How can we secure pure fertilization of Italian queens?

Ingels said, purify the black drones. Mr. Humphrey and the President stated that they had secured the fertilization of queens in confinement by the use of Mrs. Farnam's non-swarming attachment.

Question 10th.—What is the true theory on the origin of honey dew?

No one feeling willing to answer the question, Mr. Ingels read the following:

The true origin of honey dew has long been a query in my mind, and not until two years ago, could I arrive at a satisfactory conclusion. Never, for a moment, could I entertain the opinion of some that it was the production of aphides. The presence of the aphis was, in my mind, attracted there for the purpose of luxuriating on the liquid sweets of the honey dew. The theory most reasonable with me was that it was an atmospheric production. But why it did not fall alike on all vegetation in the same vicinity, was what I could not comprehend, hence my theory was at an end. I determined two years ago last spring, that if we had any honey dew, that I would investigate the cause, in order that I might arrive at some satisfactory conclusion as to its true cause. When the time came for the dews, the season was very favorable with us, I discovered the activity of my bees so very early, yet before it was light, that I suspected the presence of honey dews, for it was at a time that I knew there was a scarcity of pasturage. I mounted my horse, and followed them to the woods, and found them luxriating on the honey dew, and that it was abundant, the bees humming in every direction, for I had near two hundred colonies spread out in the woods. After my researches in the matter, I took home branches of crystalized honey dew, and placed them in the cellar until evening, then placed a part of them in the open air, and next morning found the dew in a liquid state, while others I left under cover remained crystalized. During this time the bees collected honey abundantly, and of course thought I should have some very fine honey, and of course would be as colorless as the atmosphere from which it was condensed; but how I was disappointed, you may imagine, when I examined my surplus. It was dark, thin and watery, and was almost as worthless as sorghum molasses. It may possibly do to raise broods on and for wintering bees, but I scarcely thanked my bees for the surplus. The dew continued for two weeks. I am now satisfied that I can tell honey dew honey from its color, and by tasting can tell every time. I am fully convinced, after my observations, that the honey dew is nothing more nor less than a secretion of sacharine juices that flow from the leaves of certain trees, brought about by the action of certain kinds of weather, in midsummer during a dry time, excessive hot days, with cool nights, and without the presence of our common dew. The varieties that produce the dews are hickory, linn, some kinds of oaks, willows, sumach, hazel; but hickory is the most productive. The honey has a flavor peculiar to the sap that exudes from the end of a hickory log cut in March and exposed to the sun. I presume that all of you at some period of your life have seen it. SAMUEL INGELS.

Oskaloosa, Nov. 14, 1872

Wintering of bees occupied considerable time. Mr. Woodward wintered successfully in a bee house made similar to an ice house, with double walls and space filled between. Mr. Bachelder wintered in out-door cellar, made for the purpose, and succeeded well.

Mr. Ingels wintered about two hundred colonies in cellar, under dwelling house, every winter. Would not be without cellar, and that perfectly dry and well ventilated. Would set them out the first warm spell; think it very beneficial that they be allowed to fly out early, that they may clean up the house, even if they have to be returned to winter quarters for a short time.

The following resolution was adopted:

Resolved, That this association adjourn to meet in Ottumwa, on the first Monday in March, 1873.

After some general discussion upon the merits and demerits of various methods of procuring surplus honey, increasing stocks, &c.

On motion, adjourned.

C. H. BATCHELDER, Pres't.

D. N. HAMILTON, Sec'y.

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[For the American Bee Journal.]

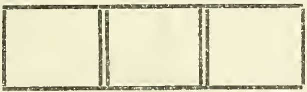
Small Surplus Boxes.

During the past two seasons I have aided a man from the State of New York to sell 11,000 lbs. of honey in three and six pound boxes. The price received was about thirty cents per pound. Had that honey been in still smaller boxes the price would have been much above that received. In all places where I have sold honey the demand has been for smaller boxes.

If bee-keepers will use boxes, say those that will weigh, when full, from one and a half to two pounds each, they will find a ready market at all times for it, and at prices nearly double that received for six and ten pound caps.

To make bee-keeping profitable, bee-keepers must use smaller boxes. Of course we cannot do without the extractor, any better than we can the moveable frame, but a bee-keeper who has only from twenty-five to fifty hives of bees, will find small boxes more profitable and much less trouble and labor. I don't know how it is in other cities out of New England, but I do know that extracted honey wont sell here for what it is worth. I have talked with dealers about it, and they say that they can sell Cuba honey as well as honey extracted here in United States. It is hard to make purchasers believe that our honey is better than that of Cuba, and nine out of every ten believe that all strained honey is artificially made, but when they see it in boxes, then they are ready to purchase and pay a fair price for it, when put up in small packages.

Twenty-one boxes, that will weigh when full two pounds each can be placed over the frames of a Langstroth hive. I make the top and bottom long enough for three boxes, leaving just room enough between the inner end pieces for a saw to run, thus:



When they are full they can be sawed apart. These boxes have glass in two sides. The top and bottom pieces are $2\frac{7}{8}$ inches wide by 15 long $\frac{3}{16}$ thick; the end pieces are of the same width, $4\frac{1}{2}$ inches long and $\frac{3}{8}$ inches thick, and are grooved with a saw, $\frac{3}{16}$ of an inch from the edge, $\frac{1}{8}$ deep. These boxes should be placed crosswise on the frames, and no honey-board should be used between. Make a hole in the bottom piece with a $1\frac{1}{2}$ inch centre-bit before the boxes are raised. Most bee-keepers do not seem to keep in mind that when a box is filled and sold, the same price per pound is received for the box that is paid for the honey—making a profit of fifty per cent. on the box alone. So, gentlemen, don't be afraid to invest your money in small boxes. when large boxes are sold, tare is allowed in most cases.

From experience I have learned that a small piece of comb, say three cells deep by two inches long, is better to put in than a larger piece. The bees commence work in these boxes first and fill them with nice new comb. When such boxes are sent to market they should be put up in crates, each crate to contain from fifty to eighty pounds of honey, and be sure that the boxes are placed in them bottom up, so that they will not break while being transported to market. To have honey look nice, it should be removed from the hives as soon as capped over and placed in a *dry, cool* place.

The objection to the extractor is the labor and time it requires to work it. I would not have those understand who intend to purchase one that it is not what they need, but, on the contrary, it is just what all bee-keepers need and should have, even those who keep only a few stocks.

There are but few bee-keepers who can use the extractor to a good advantage, that is, to make a business of it. The advantage of the extractor to small bee-keepers is in saving pieces of comb for future use. I consider one pound of good worker comb worth at least one dollar. H. ALLEY.

Newham, Nov. 18, 1872.

[For the American Bee Journal.]

Gallup's reply to Anderson.

Mr. Editor: It is always my intention to answer questions that are put directly to me, as soon as possible after they are asked; and I like the idea of their being asked through the JOURNAL, as I then can benefit more than one indiviual by my replies. But here is one from Mr. Anderson of Bruce, Canada, that I had entirely forgotten through a press of business. The reader will find the question on page 75, October number. In extra strong stocks where the bees occupy every range of comb in the hive, I raise the hive sometimes and in some cases an inch from the bottom board all around, remove the honey board entirely and the chambers for the honey boxes are invariably left on the summer stands, we do not want them in the cellar at all. Now you will see that a hive in that condition is simply like an open box without top or bottom and might safely be suspended in the middle of the cellar with a rope. Of course your bees were too warm. Begin in this manner about four days after your bees are set into the cellar and especially your strong stocks; commence raising the hive by wedge-like blocks, a quarter of an inch on one side the first day, and if the bees do not quiet down, raise the hive somewhat more and keep doing so until they become quiet. Positive fact, gentlemen, the strongest stock of bees you ever saw can be wintered just as safely as the smallest when you once know how. But if we have a hive on the New Idea plan, one foot square and three feet long, it will hold twenty-four combs, and every range of comb is occupied with bees, we can ventilate them in the above manner and all will be well. Now take a hive with the same amount of comb and bees, one foot square and three feet high, and the blindest man in Christendom could see with his eyes shut that they could not be properly ventilated. Those at the top would be too warm while those at the bottom would be too cold, and consequently they would have to be continually changing places, and as a matter of course *could not* remain quiet. Now friend Anderson, I am not hitting you in the above remarks, but am *snapping my teeth* at those chaps that have invented tall hives because, as they say, bees winter in them so much the best, &c. I now can set my bees in the cellar and ventilate them so near right (judging by the size of the stock) that I need not meddle with them again. A small stock must not have too much ventilation and a large stock must have enough. Your case of supercedure is a very common one, and *especially with pure Italians* much more so than with the blacks. I have never yet lost a stock of Italians by their queen dying with old age. They have invariably replaced her with another before it was too late. I have lost quite a number in my experience with black stocks, by their queens becoming superannuated or dying with old age, the bees neglecting to raise another.

E. GALLUP.

Orchard, Mitchell Co., Iowa, Dec. 6, 1872.

[For the American Bee Journal.]

Wintering Bees.

DEAR JOURNAL.—In the report of the Chautauqua Co. Bee-keeper's Convention, page 123, December number, the above topic was discussed at some length, and the conclusion arrived at, was that bees should be wintered on their summer stands, which conclusion is so much at variance with my own, and so well calculated to mislead the inexperienced, as being the united wisdom of the bee-keepers of

Chautauqua county, that we propose entering our objections to the conclusion arrived at by said Convention.

If a swarm of bees in this latitude were to construct their combs beneath some flat surface, during the warm season and amass abundant stores without any side protection to their combs, does any body suppose they could withstand the cold and winds of winter, which often "sweep like a polar tornado over the land?" Every one would say, they need protection to break the force of the wind and to retain the heat generated by the bees. If some protection then is necessary, as we take it for granted all *must* admit, we may well inquire how much. We arrived at the conclusion years ago, that to double our stocks in summer and lose half of the whole number in wintering, was "making haste" *too slowly* and so far as profit was concerned, it ran about thus: 50+50=100. that is 100 per cent profit, certainly a very favorable showing. No other farm (or R. R.) stock can do as well. But riches like bees sometimes take wings and fly away. Our 100 stocks have dwindled to 50 by the first of April as the result of wintering on their summer stands.

Now kind reader we do not propose to give instruction as to wintering bees in Texas or Louisiana for we have had no experience in those latitudes, but Chautauqua county, N. Y., lying north of and joining Warren county, Pa., has no dissimilarity of climate or pasturage and should have no difference in winter management. We have been trying for 25 years to so winter our bees as not to lose any considerable number at that season or in early spring. We have tried wintering them below the surface of the ground, burying *above* the surface (clamping) have wintered on their summer stands without protecting the hive, have protected with an abundance of dry straw, have wintered in house cellars and in house built on purpose for wintering. The latter I prefer for several reasons; clamping, though right in its philosophy is laborious and expensive, and places the bees for months out of sight and reach. My cellar, though a warm and dry one, causes the combs to mould. Protection upon their summer stands is also laborious, involving the use of a large amount of movable material, which is a nuisance in any well kept bee-garden, and yet does not give the requisite protection. My most sanguine expectations have been met for the past eight or ten years, in wintering in a house built for the purpose, not losing more than one stock in a hundred and those from starvation. I am now wintering a few reserve queens in nucleus hives and see no reason why it will not succeed; I may report the result in the future. The objection of expense need not be urged on those of limited means, or those having but a few stocks to winter. The size of the house should be proportioned to the number of stocks to be wintered therein, but in building, it is well to consult probable *future* wants: and the young bee-keeper who finds he has but twenty stocks to place in a house constructed for forty, has only to fill the lower part of his structure with empty hives or boxes, thus increasing the size of the air chamber, and giving his colonies the warmest part of the building.

My own bee-house, constructed about ten years ago, (before the subject of successful wintering was as well understood as at present) is a model of cheapness, if not of architectural beauty. A brief description of its dimensions and construction may prove of interest to some. Its dimensions are 8x16 feet on the ground and six feet high, double boarded, with rough pine lumber, space of four inches between boards filled with earth, also about the same thickness of earth upon the upper floor, the whole covered by a good roof. Holes are left in each gable end for the free circulation of air beneath the roof. The upper ventilator (six inches square) passes through the ceiling, and a few inches above the earth covering, opening *under* the roof. The earth for filling and covering is taken from the inside of the building, forming a spacious air chamber, no lower floor is needed. A lower ventilator 6x6 inches square, below the sills communicates with this air chamber. My reasons for preferring earth filling are these:

1st. It gives greater solidity to so small a building, and ordinary high winds do not jar it.

2nd. The earth becomes very dry by being sheltered, and in that condition is an excellent absorbent, as well as deodorizer.

3rd. In case of fire the earth would obstruct, rather than accelerate the flames, which straw, shavings, or sawdust would do, and

4th. It is already on hand and should be removed to form the air chamber.

For wintering, the hives are arranged along the sides, on scantling well supported by short posts, or otherwise to prevent sagging. In placing the stocks in winter quarters, (which I usually do the first week in November) care should be taken to place the strongest and heaviest stocks at the bottom of the pile, the medium ones next, and the lightest and weakest on the top. The hives are placed one upon another four in height, all provided with ample upward and lower ventilation. The subsequent management consists in maintaining as far as possible a uniform temperature of from 40° to 50° Far.

When the weather is mild, both ventilators are allowed to remain open. When the temperature is at or below 32° the upper ventilator is closed with a cloth, preventing a too rapid escape of the rarified air. In extreme cold weather both ventilators are kept closed. This does not entirely prevent circulation of air by escape of the rarified air and the forcing in of a colder and denser column through every tiny crevice in the structure, which from its own gravity settles at once to the bottom of the air chamber below the bees, and rises gradually as its temperature is changed. As soon as the weather becomes mild enough, both ventilators should be opened and allow sufficient circulation to carry off any superabundant moisture that may have accumulated.

Our wintering house accomodates eighty stocks when placed only along the sides, but we have wintered one hundred and twenty stocks by filling up the center. The more closely the house is filled, the more ventilation is required.

I use the Langstroth hive *only*, and should have remarked in place that in preparing my stocks for winter, I remove all unnecessary combs and stores, and contract the dimensions of the hive by the use of division boards.

As before stated I have been successful in wintering my stocks, and I have given as briefly as possible, consistent with clearness (and possibly too much so) a description of my winter bee-house, in the hope that some brother bee-keeper may be benefited thereby. The plan given is for the least outlay of means, believing it will best meet the wants of the masses, but may be made as expensive and ornamental as the means and fancy of the owner may desire.

The winter of 1871 and 1872, will long be remembered for the dysentery, which like a pestilence swept so many thousands of colonies from the earth, but it did not come nigh my bee-dwelling, although in December there was added to my stock already there, eight colonies from what afterwards proved to be one of the worst affected districts in Chautauque county. One of said stocks when brought to my apiary on the 18th of December had not the most agreeable smell, but I had no trouble with them after placing them in comfortable quarters. Two things we regard as requisite in successfully wintering bees in this latitude (42°):

1st. A properly constructed wintering house.

2nd. A judicious management of the same in controling the air currents. To illustrate, when the temperature of the atmosphere rises to near the degree generated by the bees *inside* their winter quarters, there would be but a moderate circulation of air with both ventilators open, but let the temperature change to zero, and a continuous current of air would pass in at the lower and out at the upper ventilator, rapidly carrying off the heat generated by the bees. By closing both ventilators this current would be arrested and the requisite warmth retained.

The objection sometimes made that it is too much labor to carry the bees into, and out of a wintering house, is not of much force. I usually take a day to carry in one hundred stocks, but if *necessary* could put in that number in three hours.

W. J. Davis.

Youngsville, Pa., Dec. 1872.

[For the American Bee Journal.]

Bees in Warren County, Ill.

Mr. Editor:—The season in this locality was only moderate; during the blooming of white clover it yielded honey but for a short time, and but little honey was stored in boxes even by the Italians; the blacks gathered none. The latter part of August and to the middle of Sept. the Italians averaged twenty-five pounds to the stock—gathered from fall flowers. One man having 22 stocks, all black but one, and it a hybrid, obtained from the blacks no box honey—from the hybrid 40 lbs. In Jersey county, where I spent the summer rearing queens, the season was a poor one for honey. The drouth has been so severe for the past two years that white clover has almost died out. During the month of June my bees gathered a very dark colored and poor quality of honey, similar to "honey dew." I think it was gathered from sumach, (*Rhus Glatrum*). The comb built from it was very white and nice. They also gathered just enough honey from spearmint to give almost all the honey gathered that flavor. In August they gathered honey just fast enough to keep up breeding rapidly and get up the swarming fever.

On page 92 Mr. Gartman inquires as to whether in getting queen cells started breeders always change the queen. Novice, on page 122, advises him to "swap frames with a queenless stock." He may be so *unfortunate*, or fortunate, as to have frames of different sizes; in this case let the bees "swap" hives. I would inquire if any of your readers ever received any queens from Chevalley, who advertises in this Journal? I sent him an order last February. Have never received any queens, and as yet have not got my money back. From the description Mr. Dadant gives of his queens one would judge they were impure. The description *fits* almost exactly the queen I received through the "Italian Bee Co." of Mr. D's selection. Her progeny were flying on the 23d of November, and, as far as I could judge, looked all right. Still I would have preferred one of "just the color we so much admire," instead of a *striped* one. It used to be thought that in all Italy there were none but pure Italian bees, but it would seem from Mr. Dadant's letter that the locality in which pure stock is to be found is *very limited* It would seem that (page 142) our friend Burch is going to *force* his queens to mate. Now I believe the medical fraternity claim that in cases of *rape* conception does not follow. So I am faithless in this plan as in all others, and if you were to pay me a visit, Mr. Editor, and see the various traps, cages, &c., that have been described in the different journals, even the house described by "Amateur," and I tell you I never had a single queen fertilized with any of them, you certainly would not wonder at my faithlessness.

T. G. McGaw.

Monmouth Ill., Dec. 3, 1872.

[For the American Bee Journal.]

The Season—Borodino, N. Y.

Dear Bee Journal.—Perhaps you and your numerous readers have concluded that we had entirely forgotten to write and let you know what we have been doing in this part of the country. But this is not the case. We have been so busy with the cares of our bees and 130 acres of land, that we could not possibly find time to write. We commenced the winter of 1871 and 1872 with 42 stocks of bees with plenty of good honey, and in as comfortable a place as a well ventilated cellar could make them. All went well until about the 15th of January, when the bees commenced leaving their hives one by one and falling on the cellar bottom to die. As it grew toward spring this loss increased so much that after setting them out we swept up two bushels of dead ones. We wrote to some of the most prominent bee-keepers and received instructions, but their plans, as well as ours, to stop the mortality were an entire failure. We tried every plan of ventilation, both of hives and cellar, but of no avail. On April 7th we set out 41 stocks, (one having entirely deserted its hive), quite materially weakened by the loss of bees. The day was very fine and still, with the mercury at 60°, yet at night we had only about one-half the bees we had in our hives when we set them out. We are sure the cause was old age, as we had no young bees raised after the 15th of September, owing to a frost that killed everything at that time. When we set them out there was not a cell of brood to be found in any of the hives, something which never happened with us before. All old bees and no increase for at least 21 days was no cheering prospect we will assure you. Two weeks from the time we set them out we lost 11 queens in two days. This is the only thing we cannot account for. Some were from the strongest swarms we had and all breeding as well as circumstances would admit, and certainly as well as any of the remaining thirty stocks. Two or three queens the bees drew out at the entrance, but the others were on the bottom board with a few disconsolate bees around them. These 11 we united with the weakest we had, making 30 very weak swarms to commence the season. The spring was the most backward of any we ever experienced. There was a frost the first six nights in June, one of which froze water as thick as window glass. The first pollen gathered was April 25th, from elm and soft maple. The first honey was from golden willow, which lasted three days, commencing May 7th. Some of the best swarms gained 7 pounds, as the weather was fine at that time. First drones hatched May 22d. Apple trees blossomed May 23d. The bees worked on them but one day on account of rain and high winds. Some seasons bees make a gain of 25 pounds to the swarm on apple blossoms. White clover commenced to bloom June 15th. Basswood blossomed July 11th and lasted just 8 days; last year it lasted 24 days. We took 800 pounds of surplus honey, one-half of which was box honey in 2-pound boxes, which sold at 29 cents. Extracted honey sold for 12½ cents. We now have 42 swarms with plenty of honey and bees and propose to winter them mostly out doors as the cellar is full of apples, &c. We shall winter them according to Gallup with two exceptions, the first of which is, we shall use straw in the chambers instead of chaff or sawdust. We use quilts, like Novice. If the top board is nailed fast put in the straw with the cap bottom up and tread it in with the feet, and then when you wish to take off the cap it will remain in it. Our second exception we consider important. We shall sweep or shovel all the snow that falls, up around the hives till we get it up within one inch of the top of the cap where the top ventilation is on each side to carry off moisture. This did not originate with us, but with a bee-keeper whom we became acquainted with last fall. We examined his bees a number of times last winter and concluded it possessed every advantage of the cellar. The warmth of the bees soon thaws a space of about a foot all around the hive at the bottom, narrowing till it reaches the hive at the top. Dig through this bank of snow on the coldest days and water would stand in drops on the snow, yet the hive would be dry. You need not be afraid of smothering the bees with snow piled round the hive, for you cannot do it, especially if you have upward ventilation. This bee-keeper wintered 90 swarms as described with the loss of one single swarm, while one-half of all the other bees died around him. He says he has always been successful in wintering in this way. G. M. Doolittle.

Borodino, *Onondaga Co.*, *N. Y.*, Nov. 19, 1872.

[For the American Bee Journal.]

Improvement Suggested.

Editor American Bee Journal—Being a careful reader of your paper I could not avoid noticing on page 128 of December number, the wonderful invention shown by Mr. H. Alley, in his plan for making winter holes. I would however suggest an improvement, viz: to use an auger long enough to go clear through and so get rid of one of his tools, the square pointed stick. When an inventor begins, he does not know where to stop, therefore I will make another suggestion which is best of all, viz: to use a small cannon of one inch bore set your hives all in a row, put a drone at the entrance of each hive to entice the queen from the centre, and then fire the ramrod clear through the whole lot, and the job is did. Territory for sale. Apply to,

Bully Bee Keeper,
United States Apiary, Cin.

Cincinnati, *Ohio*, Dec. 2 1872.

[For the American Bee Journal.]

"Wintering Bees."

Having been busily engaged to day, (Oct. 24th,) packing hives, both double and single walls, to winter on summer stands, I thought I would give you my method as practised for winters of '70 and '71. Up to fall of '69, all the preparation made for wintering, was to see that the hives had plenty of honey, and uncover holes in the honey board. But our bees were in such poor condition in the spring of '69, the hives being very damp, and combs mouldy, that I determined to try some way in future to avoid so much moisture. In the fall of '69 I packed the covers as full of straw as possible, and with double walls packed between hive and case, then removed honey boards, and placed narrow strips half inch thick, crossways at the ends and middle of frames, laid on some straw and put on covers. In spring of '70, the hives were dry, and combs free from mould. The only objection I have to the above is, that wherever the straw sagged down on frames, the bees stuck it fast, which made considerable work, cleaning off tops of frames before putting on honey boards in spring. To avoid this, I am using on some hives, the following, made of slats an inch wide and a quarter of an inch thick. I cut two pieces length of honey board, also two pieces width of same, nail together making a frame same dimensions as honey board, then cut pieces as long as honey board, and nail on to frame leaving from quarter to half an inch space between slats. For others I made frame same as above, then cut a piece the width of the honey board, and nail on about middle of the frame. I then took coffee sacking (any coarse cloth will do) and cut pieces an inch longer, and same width as frame, laid it on frame, letting it project half an inch over ends, tack sides on, then draw over ends and tack down, driving tacks into narrow edge of end pieces, so as to prevent bees from getting out at ends, the piece across the middle of frame raises cloth quarter of an inch from frames, allowing bees to pass over from one frame to another, at top. This cloth frame will allow moisture to pass off freely, and at same time keep straw off frames. I differ with "Novice" in regard to wintering in double walls.

The more quiet bees are kept, the *smaller* will be the loss of bees, and consumption of honey, and in my experience with double walls, I find the bees less affected by *sudden changes* either of cold or heat, than in single walls. The cluster of bees expands, or contracts, as the temperature in the hive rises or falls. Examine the bottom board after severe freezing weather, and you will generally find a good many dead bees, and why? simply because the bees on the outside of the cluster become chilled, and are unable to contract with cluster, and perish. We lost twelve colonies last winter: of three in double walls, one was lost from dysentery, and two, for want of honey. Of nine in single walls: one was lost from want of honey, and eight perished showing no signs of disease, and having abundant stores. An examination of the hives showed plainly that the bees had perished at different times, as I found bees between one and two ranges of combs, separated from main cluster, which showed that they had become chilled, and the main cluster in contracting had drawn away from them. Now the cluster in these hives had become very much reduced by sudden changes, when the temperature went down several degrees below zero, putting a quietus on what was left. Place two hives on the same stand, one in double walls properly packed with straw between walls, and top of hive, honey boards having been removed, the other in single walls without any protection, and after severe freezing weather, examine bottom boards of both hives, the difference in number of dead bees found will be sufficent proof of the superiority of double walls when properly managed.

Bees need occasionally a purifying flight, and after being confined to hive for weeks by severe weather, when the opportunity offers a safe flight, all shade should be removed, and I have removed covers, so as to let sun shine directly on chambers, so as to warm the hive. I think hives should be shaded from the sun after packing for winter, until they commence flying freely in spring, and from that time until boxes are to be put on, or surplus honey is to be taken in some way, I would give them all the sun possible, then shade while surplus honey is being stored. I have made some experiments the past season in feeding, which have proved satisfactory and which I may communicate to the JOURNAL at some future time. J. E. MOORE.

Rochester, Pennsylvania.

[For the American Bee Journal.]

Chips.

MR. EDITOR:—I don't often see anything in the JOURNAL from this part of Iowa. I will send you a few "chips," that brother bee-keepers in other sections of the country may know what we are doing here in the way of apiculture.

There are a good many bees in this county, both of Italians and blacks. The Italians were introduced into this county in 1867. In 1868, F. M. Milliken and myself got Italian queens from Mrs. Tupper, which proved to be very good. Other parties subsequently obtained queens from different queen breeders, and now there are hundreds of Italian colonies in the county. The past season has been a poor one. We have but little white clover here yet. Buckwheat yielded but little honey, and the linden proved almost a failure. The most of the honey that the bees did gather was from autumn flowers, golden rod, heartsease, &c. Last spring I commenced with twenty-four stocks, and increased them, by artificial swarming, to thirty-two, which gave me only about 1,000 lbs. surplus honey; the most of that was extracted. I had only a few boxes filled with comb honey.

In the summer of 1871, I got up au extractor that worked very nicely. I had a tinner to make a tin can 20 inches in diameter, and deep enough to suit the depth of my frames. A light wooden frame inside of the can supports the frames and combs; the frame is run by gearing taken from a worn out churn. The inside frame revolves, but the can is stationary. The honey runs out at the center of the bottom of the can, and can be caught in any convenient vessel. The Peabody extractor is the only patent one I have ever seen, I like the one I use best; it turns much easier. The can of the Peabody revolves which makes it much harder to turn, as the honey does not run out until the operator stops turning.

As there has been a great deal said in the JOURNAL about introducing queens, I will give my method. I use a frame the same size of those I use in my hives, both sides covered with wire-cloth. I bore a hole in the bottom piece of the frame for the purpose of putting in and letting out the queen. I put my queen and a few of her bees into this cage, stop the hole with a cork, and hang the cage in the hive with the other frames. Every bee in the hive will find her and make her acquaintance. Forty-eight hours from the time she was put into the hive, I take the cork from the hole and allow the queen to come out at her leisure. I have never lost a queen introduced in this way.

On page 144, December No. of AMERICAN BEE JOURNAL, Mr. Furman gives some of the queen breeders some pretty severe "raps across the knuckles," and I think he has hit the nail right slap on the head nearly every time. I have tried some of the modes recommended in the JOURNAL for procuring fertilization in confinement, but have invariably failed to accomplish the object sought. I first tried Mrs. Tupper's favorite method of confining the queen and drones in a wire cage, 6 or 8 inches in diameter and 10 or 12 inches high, but never had one fertilized in that way, and sometimes lost the queen.

I next tried N. C. Mitchell's plan, which is to put the queen and drones in a large cage, suspended in the hive among the bees, but failed as before. I now don't believe that a queen has ever been fertilized in any other way than on the wing. If it is so easily done as Herbert A. Burch describes, (see page, 142, Dec. No. of BEE JOURNAL), if it is such an easy matter to have a queen fertilized by any drone desired, why don't some of those who talk so much about it accept Mr. Furman's offer? (Dec. No. of AMERICAN BEE JOURNAL, page 144). If I could mate a queen and drone by taking them in the hand and mate them, I would work for Mr. Furman all next summer, or at least so long as he had a hundred dollar bill in his "jeans."

What will we do for a market for extracted honey? I cannot get more than 12½ cents per lb here, and that I must take in goods, and cannot sell more than 50 or 60 lbs. at one time. Who knows of a dealer in honey, at a reasonable distance from here to whom honey can be sent with some assurance of receiving pay for it?

I sent a barrel to the "Exclusive" honey dealer in Chicago, sixteen months ago, and have never received a cent for it yet. J. P. FORTUNE.

Bloomfield, Davis Co., Iowa, Dec. 12, 1872.

[From Chicago Tribune.]

The Apiary.

WHAT MAY BE DONE IN THE APIARY DURING THE WINTER,—THE FUTURE PROSPECTS OF BEE-KEEPING.

RURAL HOME, ILL., Jan. 11, 1873.

Eight degrees below zero, and the northwest wind soughing through the pines that shelter the house on the north and west, and under whose shelter are the bees on their summer stands. I tap on the hive, and they answer to the summons, "Here we are, but awful cold and drowsy." That is, their low droning implies as much. The last of next month we will begin to feed them, not that they need honey, for their stores are ample, but for the purpose of stimulating their breeding.

All hives that are too full of honey will have the surplus taken out, and empty frames, or frames of comb, placed between, in order to give the queen room to lay her eggs; and muslin sacks filled with honey, as Mr. Hosmer proposes, will be placed in the top of each hive.

We have now had two bad seasons for our bees, and I wish to have them in readiness to make some amends, should the spring open with favorable assurance of better things. If we build up the swarm by feeding to their full capacity early in the season, we will then be ready to divide our swarms early in the spring; for, just at this time, it is colonies of which we are in particular need. Under no other conditions would I care about feeding, but would otherwise let them take the chances of the season. It is doubtful if this extra feeding would pay for honey, while it may do so for swarms, when they are, as now, very much needed. I wish to fill up the empty hives which the disaster of the winter of 1872 brought us and left on our hands.

We may now begin to clean up these old hives, for all the frames will need to be scraped clean of the old comb, and, as many of them have become broken by careless handling, they must needs be repaired. And, while we have our hand in, a new coat of paint might be put on. The most convenient and durable paint for this purpose is the Averill chemical. This is ready mixed for use. It needs no further preparation, and may be put on by any lady. In fact, I much prefer to do my own painting to hiring it done; it is one of the things that we women may claim the right to do. This looking after the bees; the making, or rather the putting together of the hives; the making of frames; the painting and putting the hives on their summer stands for use, are duties that any young lady might well be proud of doing, especially if there came a good reward at the end of it in the form of greenbacks.

ARE THE WINTERS GROWING COLDER?

An old pioneer and a bee-hunter, made me a call yesterday, and I asked him if the winters are growing colder. "I can't say that they are," said he, "and yet the winters are different; one thing is certain, that we have killing frosts earlier than we did thirty years ago, and I account for it in this way: At that time the sloughs were generally filled with water, and the heat they gave off in frosty nights tempered the air and prevented frost. Now, all the sloughs are dry, and the heat is radiated rapidly, and the frost kills the golden rod, the asters, and other late-blooming flowers, and thus the bees have a shorter season for gathering honey, and a longer one for feeding. The changes are greater, and frost penetrates the ground to a greater depth. Even the forests are more dry, and there are less flowers now than formerly; but I suppose the cattle browsing through the woods destroy many of them. Certain it is that now we have very few wild bees in our groves and along the river-bottoms. I suppose that the bee-moths have something to do with this, but the chief cause is the falling off of a steady supply of flowers; and I might say that there is another reason, for the people have cut down the basswood trees everywhere, in the most reckless manner."

What do you think of the prospect of bee-keeping in the future, as compared with the past ten years?

"Well, as to that, I think we will come back to the old points where we found it, before the plow, and the stock, and the long summer-drouth had made such a change in the supply of flowers. We shall have the orchard, the maples that are planted for shade and shelter-belts, the small fruits that are being so largely planted for family use and for market. Then the white clover is taking the place of dog-fennel along the roadsides, and is spreading over the pastures and meadows; and the farmer who keeps bees will sow buckwheat for this has become a paying crop on account of the great demand for the flour; and I might also make some account of the flowers that may be cultivated about the house, for I see that the farmers are beginning to lay out a lawn of one or two acres about the house, and to devote it to trees and shrubs, and all of these, with the exception of the catalpa, so far as I know, are honey producing. I must say that we need not be discouraged, but look forward with renewed hope for a return of the old time when honey was abundant." ELLA.

Reports for 1872.

Henry Crist, of Lake, Stark county, Ohio, writes: On account of my poor location, "oft infirmities," and many other cares, I keep only from fifteen to twenty stocks of bees, and more for experiment and pleasure than for profit, but always with reference to the largest amount of surplus honey in the combs, increasing stocks only enough to prevent natural swarmings, and again selling stocks as they increase in numbers. A great many stocks died here last winter, some of starvation and neglect, and others leaving plenty of honey. The past season was also rather poor for bees, so that the stocks that survived the winter generally did but very little, consequently honey is scarce here. Impaired health prevented me from putting my bees in the cellar last fall, my stocks, however, were strong, and all in the common Gallup hives, standing near the ground without any protection whatever. The tri-sectional honey boards allowed some upward ventilation, the entrance was contracted to five inches by three-sixteenths, and passages cut in the honey. Their food, thirty pounds per stock, was fully one-half syrup of coffee sugar, a large proportion of the remainder was honey dew. Thus they stood in a very open location, exposed to the sun, rain, snow, strong, piercing winds, and the general severities of a very cold winter. They enjoyed, however, a good cleansing flight about every five weeks. On these days I opened the whole entrance, eighteen inches long and one-half inch deep, and cleaned the bottom boards. Last spring they all came out strong and healthy, a strong nucleus with seven combs among the rest. The average consumption per stock was twenty pounds from Oct. 1st to April 1st. The nucleus consumed sixteen pounds, thus leaving an average of ten pounds per stock. Spring opened unfavorable. Three of my queens failed in May. One of these stocks I put in with the nucleus, this made a good stock. The other two stocks I united, this was measurably a failure, though strong in numbers it lacked young bees to build comb. Instead of uniting these two stocks, I should have built them up separately with brood from other stocks and furnished queens. By stimulating and equalizing, and finally starting nuclei, I had all my other stocks at the swarming point by the time white clover commenced to yield honey, which was June 11th. I then put on my surplus honey frames, (A No. 1 arrangement,) of these the bees took possession instantly, and worked in them as readily as in the body of the hive, and most of them more so. The clover continued to yield honey till June 29th, in all nineteen days, seven days of which were almost entirely lost by rainy weather, leaving twelve good honey days. White clover is the only source of surplus honey on location. I increased the number of my stocks twenty-five per cent. The young stocks yielded no surplus. The parent stocks yielded an average of fully fifty pounds sealed honey each. The best stock (a choice Italian) made seventy-six pounds. I sold my honey at thirty cents per pound. In re-queening my stocks in the fall I had three queens fertilized as late as the 15th of October, having had drones reserved in a queenless stock.

Dr. H. Chaffee, of Tolono, Illinois, writes: Bees have not done very well here this season. I wintered my own on the summer stand, except four of the weakest; those I put in my cellar. They went through the winter nicely, I fed last fall 100 pounds of sugar to 11 of the lightest, as last year was very dry, and but little honey made. I lost 10 out of 60; few for want of honey, but mostly after the flowers came, by loss of queen, and some from worms. Bees made no surplus honey until after August; if they did they put none in the boxes. I do not use the honey extractor. I have had no trouble in regard to filling the boxes when there is any honey. There was very little honey in white clover, but most of the honey was gathered from smart weed and Spanish needles. There was but little honey in buckwheat. A few of my swarms I lost had the dysentery, but I do not think it killed them. I hear a great deal said in the Bee Journal about it; some say one thing, some another. I do not believe anyone knows the cause of so many bees dying last winter. We are five miles from timber. I think to succeed well in keeping bees they should have both timber and prairie. My bees are nearly all in movable frame hives, with four glass boxes on the top, holding 10 pounds each. Nearly all are Italians. My bees are well protected by buildings and trees. I shall leave them on their summer stands the coming winter, except a few of the lightest; those I will put in my cellar. I leave my boxes on, so they have moderate upward ventilation. I let them fly out warm days, but when snow is on the ground, shade the front of the hive.

NOT DISCOURAGED.

I am not so despondent as some of the "brethren" seem to be, if my pets did many of them die last winter. A goodly number of men lost all they had in Grafton county. The past summer has been more rain than sunshine, but I am hoping for better times. I hope the bee-loving family will let brotherly love continue among them, and greatly oblige the lady readers of the good old Journal

Mrs. Laura Page.

Littleton, Grafton Co., N. H., Dec. 12th, 1872.

Henry A. Holcomb, of New Bedford, Mass., writes: I bought two swarms of black bees last winter. Tried to transfer them last January, and lost one swarm by freezing. I introduced Italian queens in the spring, artificially swarmed them twice in May, and have done first rate since, and now have three good strong swarms and plenty of honey to winter on, with frames all full of comb.

Wm. Dyer of Hastings, Minnesota, writes: My bees have done very well this season, taking into account their real condition last spring. I wintered in cellars last winter, putting in seventy-eight swarms and losing twenty, a number of them after I took them out in the spring. The most of my hives were much reduced in bees but had plenty of honey so that I have not had much of an increase, only twenty-three swarms. From these I have taken in boxes and supers sixteen hundred and fifty (1,650) pounds of honey.

I have kept bees for the last seven years (in this state) and have wintered some every winter in the old box or tall hive, and have always found that the bees wintered with less loss and came out in better condition in the spring. Three years ago I commenced to build a new hive from a suggestion of Solon Robinson's, in his Facts for Farmers, which was to hang the frame so that they would open like the leaves of a book. My object was to get a greater depth of frame believing it to be a fact that when bees make their own selection, they never select a hollow that runs horizontal, but one that stands perpendicular and one that has more height than breadth. Taking that as a basis, I constructed a hive with frames fifteen inches deep. The front of the hive opens and the bottom and back which hold the frames (not forming the main hive) draw out and are supported by the bottom of the hive, which extends far enough in front to support it, and the frames can then be opened to the right and left or taken off, as they are hung to a hook on the back, and the frames are so made that they never touch together. The hive is something like Mitchel's Buckeye hive, although I had never seen or heard of his hive at the time I got up mine.

I had eighteen of these hives last winter; they were placed along with the other hives in two cellars, and only two of them showed any signs of dysentery, and all came out strong and gave two swarms each. The second swarms were put back and the old stocks gave a yield of honey. The hive is not patented, and any one can have the benefit of it that may wish to try it.

C. Sanders of Chester, Vt., writes: What few bees lived through last winter have done well in this section. I wintered six swarms on their summer stands which came through all right. I like wintering on summer stands better than housing. I have taken one hundred and ten pounds from one swarm, and one hundred and twenty-five pounds from another, nice box honey, and other swarms have done nearly as well. I use the Langstroth hive.

D. D. Palmer, of New Boston, Ill., "Sweet Home," writes: My report for 1872 is as follows: Forepart of season, very poor; a fair increase. I now have fifty-six hives, forty-six of which gave me honey to the amount of 2,650 pounds, mostly *slung* honey. My best hive was blacks, which gave me 205 pounds. "I might have taken more if I had slung oftener." My twenty best gave me 2,000 pounds, an average of 100 pounds each.

Hazard Babcock, of South Brookfield, Madison Co., New York, writes: Inasmuch as Mr. Quinby has given his theory on the cause of bees dying last spring, I will tell what has happened to my bees in the early part of this season. A part of them were put into a cellar, and a part were put into the ground, in all about forty stocks. Four came out of the ground dead, and one out of ten that were put into the cellar. Those of the cellar showed signs of dysentery several weeks before they were set out, on the 5th of April, while those in the ground have just begun to show symptoms. I supposed that the trouble was all over, then but in a short time after I began to find queens dragged out of the hives; some were dead, others were apparently all right and able to fly. This was too early for drones, although a good many queens were hatched but were lost for the want of drones. I lost twelve stocks out of fifteen that killed their queens. Several well populated stocks dwindled away to almost nothing; they had a queen and brood and were strengthened up with other queenless stocks, but to no advantage until the queens were destroyed and queen cells given them. Then they went along quite well. Early in September, 1871, I introduced several Italian queens. They had no brood that fall, nor had they any brood when taken out of the ground in the spring; but have done well through this season, while others of the same lot of queens went up. The bees had no chance to fly out last fall after the 20th of October, till the 5th of April, '72. If they had had a chance to have emptied themselves last November, a good many of the old bees would have been left out of the play and young ones would have been reared in their stead, and the disease would not have been. The honey that was taken out of the hives that the bees died in was fed back to the bees this fall, and they have raised brood and are all right yet. This was done the first of September, and in small quantities at a time. After that was used up for brooding they were fed coffee sugar enough for winter stores. In common winters, bees will do well in a cellar that has a good deal of water in it, if the hives are well ventilated at the top and set high up from the bottom, and set so as not to feel the least jar, the cap and honey-board taken off and several thicknesses of old carpet, or any woolen cloth, put over them, without any board or wood on top, as that will gather dampness.

MAKING UP LOST GROUND.

Mr. Editor.—You will remember my writing to you last June, saying I had lost all my bees the past winter except two swarms. Well, I bought *two* and went to work trying to improve them, both in numbers and quality; how well I have succeeded you may judge for yourself. I made me an extractor that I think will beat a Peabody or Gray & Winder's, and cost me much less, and gently informed my stock that I should expect a good report from them.

I now have on hand twenty stocks of bees, and have taken 429 pounds of fine extracted honey, besides selling a few Italian queens. I did not extract any honey until July 10th. Most of the honey was gathered from *smart-weed*, and the quality is very good. I have sold most of it for fifteen and twenty cents per pound.

What think you of my progress? If I have been successful, the A. B. J. can claim much of the credit. "Long may it wave," only I'd like it twice a month during the summer months. Can't we have it? Say yes, and oblige,

Yours, Frank W. Chapman.
Morrison, Whiteside Co., Ill.

J. Scott, of Epworth, Dubuque county, Iowa, writes: I have been a subscriber for the American Bee Journal for the last two years. It has become one of the necessities of bee keeping, with me, at least. I have not Italianized but a small portion of my bees as yet, but shall next season if all is well. I have tried the Italians until I am satisfied that they are the bees for me. You are aware that bees wintered badly in this locality last winter. I lost eighteen out of forty-seven, and what were left were in very bad condition, still from twelve (12) swarms that I was able to give two sets of combs, I took twelve hundred (1200) pounds white clover honey and two hundred pounds buckwheat honey, besides leaving them abundance of honey for winter. This, understand, (viz: the amount above,) was extracted honey. The balance of my bees I used boxes on as usual, and got not to exceed forty pounds surplus.

P. Young, Sharon, Wis., writes: This has been an average season for bees in this section. The order of the honey harvests last year is reversed this year. This season we had but a moderate crop of white clover, but a great deal of buckwheat. The weather has been very *moist* and *warm* during the latter part of August and first of September, consequently the honey was secreted very fast. Last season we had an immense crop of white clover, but the fall was *cold* and *dry*, and here, I think, was the cause of the loss of so many bees last winter. They had filled up the middle of the hive with honey gathered from buckwheat and smart-weed, then it came off cold, and this honey being thin was not sealed, consequently it soured, and it being in the middle of the hive they consumed this first, which caused the dysentery. Again, when we have a fall that is cold so early, I shall extract the thin honey from the middle of the hives, for it is better these combs be empty than filled with such honey. I would advise every bee *master* to provide himself with an extractor. I have a couple which I made myself, *which can't be beat*, and they did not cost $15 a piece either.

P. S. Van Rensselaer, of Port Clinton, Ottawa county, Ohio, writes: I am one of the put-off kind of bee-keepers. My bees suffered last winter. I lost ten swarms out of thirty-nine, and three were very weak and the worms took them. I tried to help them, but forgot them too much. I sold four swarms, the balance gave me four hundred and fifty pounds of box honey, four hundred pounds slung, and three sets of the slung frames are full of fall honey, to be used as required in spring.

F. McCulley, of Robersonville, Tenn., writes: I am at present teaching school, and all leisure hours I hold converse with live and wide awake opinions, such as "Langstroth," "Gallup," "Novice," and many others, through the medium of their writings. This year I am only preparing to get my apiary well fitted up; before a man locates an apiary, he ought to ascertain the most reliable natural resources for bees. I have been favorably impressed with this section. The selected site I have made we have all early pasturage; our principal forage is poplar, clover and locust, but from some cause our buckwheat does not seem to be very inviting to bees. Next season I will try the virtue of buckwheat. Our winters are very mild; we winter on summer stands. Now, my experience has been a little of all, even to the old fashion "bee-sting." I used a bee hat on the first occasion, and then laid it aside.

I have done some hiving, transferring, &c. I have been quite fortunate for a novice. My *modus operandi* of transferring was as good as any man's. My plan is too tedious to attempt to elucidate; I will only advise the procuring of back numbers of the Journal. My bees are in good condition. Interest in bee culture and modern improvements are being revived here; yet bee culture, comparatively, is in its infancy. The best way to cultivate bee interest is to circulate the Bee Journal, so they can read from its pages real practical experiments, made by our best apiarians, if it continue to record such experience. In concluding, I will only state that my first experience has been chiefly reverses; hope to gain by the fruits of this year. I will advise all beginners to stamp on their banners, "Luck is a fool, Pluck is a hero." I wish success to the Journal and all the bee keeping fraternity.

J. N. Walter, of Winchester, Van Buren county, Iowa, writes: In the fall of '72 I put in winter quarters sixty-eight colonies, all in fine condition. They all came through the winter except one. After setting them out a month in March, I had but thirty weak colonies living, death supposed to be from cholera. With these thirty, and the extra combs, I have increased to one hundred and two, and extracted eight barrels of honey, but owing to the unfavorableness of the fall, I fed back four barrels, thus leaving but four barrels, with the increase for the season's work.

I extracted all the honey from them in September, with the determination not to allow them to winter on a poor article of honey again. So by the 15th of September I commenced to feed them the very best clover and buckwheat honey, equal parts mixed. I would say right here that I think that pure clover honey is unfit to winter bees successfully on, from the fact that it contains too much acid. Mixed honey I consider the best; better than either separate, for bees to winter on. They are all in winter quarters, where the thermometer ranges from twenty to forty degrees, with twenty pounds of honey a piece.

Wintering on the Scholtz Plan.

Editor American Bee Journal:

Dear Sir.—I miss your magazine this month. Please send it, as I find no periodical out of the many I take that gives the satisfaction your magazine affords me.

I wrote you about wintering my bees on the Scholtz plan. I am trying it with forty-four swarms. Am making very rigid observations of the temperature inside and out, and all other conditions affecting their well-being, and will make you a report in the spring that may be of service to your subscribers.

Thus far I have been able to maintain a temperature inside the clamp of 40° Fahr. for the month of November, and 39° for the month of December and so much of January. The thermometer outside has been 6° below zero, and the average for the whole month of December was 18° Fahr., which makes a very cold month. I ventilate freely and prevent an accumulation of dampness. I took off the honey boards and stopped all bottom ventilation. Yours truly, Chas D. Hibbard.

Auburn, N. Y., Jan. 11th, 1873.

[For the American Bee Journal.]

Experiences and Plans of a Chenoa Bee Keeper.

In looking over the Bee Jonrnal I see the general report is, "This is a poor season for bees—many have made no swarms and very little surplus honey—many will have to be fed this winter," &c., &c. There are, however, a few exceptions to this gloomy aspect of things, and they tell us of success and large yields of honey. I also will give you an item. We live in a prairie country without any grove within available distance, and that of a poor kind for honey. Almost all the land is cultivated in corn, and white clover is only just beginning to spread in the streets, lanes, and the small pieces of land which are kept for pasture. So our location cannot be considered good for bee culture, yet my bees have more than doubled themselves in number and have a good supply for winter. I tried one stand by making it into a two-story hive. The size of the hive and frame the same in both upper and lower stories. When I took off the upper hive it contained about eighty pounds of honey. This top hive was put on late in the season, and after I had taken out two frames of brood to form nuclei to raise queens. This experiment is satisfactory. I intend to adopt this plan more generally and test it more thoroughly next season.

I have a bone to pick with Novice. He has gone to work and made a hive so much like the one I use that I shall not apply for a patent. But on the whole there is not much harm done, for I never intended to apply for one; there are too many already.

And now, Mr. Editor, and bee-keepers in general, I will take time by the fore top in another matter. I see by the Journal that some one has taken out a patent for a compound to smoke or stupify bees. I will give you one that I have been using for two seasons, with good success. Take one-half ounce of pure saltpetre and put it into a pint of water, let it stand on the stove until it is all dissolved; then take cotton rags sufficient to absorb all the liquid, squeeze out to prevent dripping, then dry the cloth and it is fit for use. A piece four or five inches square put into a smoker, or rolled up so that you can blow the smoke into the hive, will be sufficient for one hive, and it may be, the first time you use it, you may think, too much. But if you find many, or nearly all the bees, laid on the bottom board, there will be no harm done. They will soon come to when they get the fresh air This is always ready for use, and can be carried with you anywhere.

The theory that queens only mate with the drone once isn't always correct. I have raised many queens the past season. One day as I stood by a nucleus, I saw a fine young queen come out, and in a short time return and enter. I saw evident signs that she had mated with the drone. The next day I saw her come out again and return as before, showing the same signs as on the previous day. In three days she was laying, and I can discover no difference in her progeny. They are as good now, and no better, that I can discover, than the first she produced. [This is by no means conclusive disproof of the theory in question.—Ed. A. B. J.]

The best method of wintering bees seems to be as far from being settled as ever. The old proverb, "In the multitude of counsellors there is safety," may be correct, if you only knew whose counsel to follow. But among the various opinions of writers on this subject the beginner gets confused, and has to follow his own judgment in the case. There is certainly variety enough to satisfy a reasonable person, out of which to choose. We have indoor and outdoor wintering in all supposable varieties, and under all supposable circumstances, and still are not satisfied.

I will give a plan which I have followed for two winters, with good results. I cut a hole in the bottom board four by six inches, and cover it with wire cloth, so that no bee can get out. Tack it on the inside of the hive. Fasten the top and bottom boards on firmly, so that no bee can get out, then take the hive into your winter depository and turn the hive bottom up where you wish it to stand. If some of the uncapped honey should run out of the cells no great matter, the bees will soon attend to it, and put it where they want it for winter. But if you adopt Novice's plan, and have your top and bottom boards both alike, without any projections, you need not turn the hive bottom up, but only put the bottom board on the top, then you will have all the ventilation you need. If you think this too much, a piece of thin cloth can be laid over the vent hole to check the escape of the heat. Will Novice, or some one else, try this, and report results. I find this to be a good plan for summer ventilation, as the hive can be set close down to the bottom board, leaving the entrance only large enough for the bees to pass in and out freely. It prevents robbers and millers from entering the hive, as the bees will guard the small entrance against all these intruders. John Luccock.

Chenoa, McLean Co., Ill., Nov. 14, 1872.

[For the American Bee Journal.]

Travel in Italy.

On a nice morning in the latter part of August, I left the train of the Milan and Alexandria railroad at Calcabbabio, in company with Sartori. We had left Milan two hours before. When passing at Villa Maggiore I admired the exterior of its church, representing on a small scale the celebrated cathedral known under the name of Dome of Milan (Duomo di Milano). Sartori informed me that the monks who possessed Villa Maggiore, before they were deprived of it by the king *galant-uomo*, had accumulated in the church treasures of painting that were envied even by royal museums. I regretted that, being on a business trip, I could not have the pleasure of tarrying to look at these marvels.

The nice little city of Pavia afterwards showed us its walls and fortifications, together with a manœuvre field in which soldiers were seen parading. A little further, on the Po, a company of soldiers were building a boat-bridge, while another company were taking off a similar bridge that had been built on the previous day. The river is divided in several branches near Pavia. Across one of these I noticed a railroad iron bridge. I remarked that I had seen a similar bridge near Pittsburg. "You are not mistaken," said Sartori, "this bridge was manufactured in America; they call it the American bridge."

From Milan to Pavia the meadows and corn fields were intermixed with rice fields. Beyond the Po, the land being more hilly, the rice fields disappear and vineyards are to be seen.

It is a queer sight, for an eye accustomed to the vast American fields, to behold these small parcels of land, divided every ten yards by a row of mulberry trees or of grape vines. Silk is one of the largest productions of Lombardy. The mulberry trees, with their bright leaves, if less numerous and left to themselves, without trimming, would give a beautiful appearance to the fields of Lombardy; but as they are kept low and trimmed every three years, they limit the view and make the fields monotonous by their uniformity.

An *incettatore* was waiting for us at the station. The Italian *incettatore* is a trader who buys fruits, vegetables, eggs, chickens, honey, &c., in the small villages, exactly like the American peddler or the French *coquetier*. This man was also a bee-keeper; he had studied this business in Milan, during a month at the Sartori establishment. Having learned, through the papers, my arrival in Milan and my desire to buy queens, he had come to offer Sartori the queens of eighty-seven hives that he had bought, and that he intended to destroy to take the honey. He had agreed to meet us at the station, and was punctual at the rendezvous.

The vehicle on which we loaded the willow case containing the boxes for queens, was a two-wheeled cart, very high, and provided with two tall side-ladders. A mule was hitched to it, buried under an enormous pack-saddle and a collar of similar dimensions. We had to climb on this cart. I approached near the front. "Look out!" said the driver, "my mule kicks." I passed near its head. "Look out! it bites." At last we started, comfortably seated on our willow case; but how slowly we traveled. "We will never arrive, *avanti*, (forward) driver!" "My mule does not trot," answered he. And to prove this, he gave it a blow with his whip. The animal slackened its pace to shake its tail and ears and continued to walk.

At length we arrived in Montebello, a small village celebrated for two victories gained over the Austrians. The *incettatore* explained to us how the armies were placed, and how the Austrians, overtaken by an army four or five times smaller than their own, believed themselves surrounded and fled, abandoning their baggage. At Montebello a monument, representing an Italian soldier, perpetuates the memory of this *fait d' armes*.

Montebello is at the mouth of a defile which is buried between two mountains of Piedmont. From Montebello one can see the plains of Lombardy, but the nicest point from which the plains can be seen is the church above *Borgo Priolo*. From this place one can distinguish the city of Pavia and all the valley of the Po. *Borgo Priolo* was our destination; we arrived there at twelve o'clock. After a bad meal, as to the quality of bread and meats, but bettered by white wine and delicious fruits, we began to scale the mountain. After two hours of travel, in a road too steep for wagons of any kind, we arrived at the place where we were to begin our operations. All the hives are made of hollow trees. They are all of the same height, about twenty-eight inches, notwithstanding the size of the tree, so that there are hives measuring four thousand cubic inches, together with hives that measure about six hundred cubic inches. The smallest hive that I saw was less than five inches in diameter, inside measure. These hives are generally placed on shelves hung by the house, more than six feet above ground. The owner pointed out to us those that that he destined to be sold. They were all second swarms or old stocks that had swarmed. They sell the second swarms because they are too weak for winter, and the old hives because the combs are old. As for the first swarms the *contadino*, (peasant,) would not sell them for any price.

To find the queen, they spread a cloth on the ground, they bring the hive and lay it on its side, closing the opening with the cloth, then they begin drumming it. They thus prepare four or five hives at one time. After three or four minutes, they take the hive up and strike it on the ground to shake the bees out, and then hunt for the queen. If they do not succeed in finding her, they wait a few minutes and recommence.

We had finished our work in one apiary, and were beginning in another, when the peddler boy arrived with the cart, as he had been taking it through a road accessible to wagons.

Seeing Sartori climb the ladder, take a hive and bring it down without exciting the bees, he went boldly to the ladder, moved it a little, ascended up, and brought a hive down with as little care as though it had been a sack of potatoes.

At the sight of this I foresaw what was going to happen, but could not warn him for he understood but one language, Piedmontese. He disappeared in a cloud of mad bees. I hurried to help him, and covered the entrance with a cloth, but was assailed with such fury that I had to leave the spot, although I had a veil, for the bees were stinging me everywhere, on the shoulders, on the arms, and on the hands. I hid myself in a bush. Sartori laughed at me, but the next day he had to do the same. Still those bees were not usually cross, but we were often drumming hives that did not contain a single drop of honey.

When the poor peddler boy returned, his lips were as big as my fist, and his eyes were lost in a sudden fatness. This accident did not discourage him, however, he asked for a veil, and continued to help us whilst his master was brimstoning the hives to kill the remainder of the bees, and emptied all the contents. *To be continued.*

Hamilton, Ill. CH. DADANT.

The Bee Journals.

REV. W. F. CLARKE.

RESPECTED SIR: The January number of the AMERICAN BEE JOURNAL is at hand, and it is with great pleasure that I see your name on its title page as its Editor. I have always considered it the best journal of its kind in the United States, but shall now look forward with renewed anticipations for its future.

The point in which the other journals fail to suit the wants of their subscribers is, that they are conducted in the special interest of some hobby of their proprietors.

Another contracted feature of those journals is that they withhold the Post Office address of all their correspondents. The object of such exclusiveness is manifestly to keep their readers in blissful ignorance of each other, and the apparatus and management adopted by each.

Now this is *not* written with an idea of dictating or even suggesting to you any mode of proceedure, but because, from personal acquaintance, I feel confident that your views are similar to those just expressed.

I have taken the liberty of thus declaring my views, because I think the time is not far distant when the generous, progressive spirit of bee-keepers shall be emulated by the Journals that claim to represent their best interests before the world.

Now that we have a Bee Journal edited by a man, interested in *nothing* but the *greatest good* to the *greatest* number, it is apparent that this Journal *must* take the front rank, and represent in character as it does in name, THE WHOLE AMERICAN PEOPLE!

You may count upon me far all the support which time and circumstances will allow me to give.

In closing, I feel to exclaim: LONG LIVE THE AMERICAN BEE JOURNAL!

Yours truly,
J. H. NELLIS.

Canajoharie, N. Y., Jan. 14, 1873.

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The American Linden.

BY D. L. ADAIR, HAWESVILLE, KY.

The article in the October AMERICAN BEE JOURNAL, on the Linden, translated from *Die Honegbiene*, describing the various species, (?) embraces only foreign varieties, with the exception of *Tilia Laxiflora*. The foreign Linden has so many insect enemies that it would not be advisable to plant them extensively. Many lepidopterous insects feed upon its leaves. Several species of Geometrids, called span worms, loopers, measuring worms, &c., are so destructive to the leaves, that they are completely devoured, leaving the tree bare of foliage.

A worse enemy, and even more fatal, is a horned beetle, (*Saperda Vestita*). It is about one-half inch long, is covered with a greenish down, with two dark spots on each wing cover. It appears in May, and devours the young bark and tender twigs. The exposed surface of the wood is pierced with innumerable holes, where the egg is laid and the *larvæ* bred, to produce increased swarms of beetles.

The American Linden (*Tilia Americana*) on the contrary, is seldom much injured by insects, although the *saperda vestita* has in some instances been known to attack it. Washington Square in Philadelphia, some years ago, had both species growing in it. The European was destroyed by these borers and had to be cut down, while the American remained untouched until after the former was removed.

Twenty years ago there was a tree of the European Linden in Cambridge, Massachusetts, which was reputed to be over two hundred years old, with a trunk eight feet in circumference, which was attacked by the borer, and in a little while its trunk and branches were denuded, pierced and grooved with millions of holes, completely destroying it. No certain means of arresting the depredations of either of these insect enemies has yet been devised, and any extensive, or even small, plantation of the foreign Linden would probably be destroyed sooner or later. It is likely, therefore, that should honey orchards be planted that they would be principally of the native varieties. It might not, therefore, be out of place to record in the pages of the AMERICAN BEE JOURNAL, a short account of the different varieties of the American Linden. The following include all the known varieties; some of them may be species:

1. TILIA AMERICANA, (according to Linnæus, Michaux, Torrey & Gray, and Loudon), or TILIA GLABRA, (according to DeCandolle & Don). The common names are *Bass Wood*, *White Wood*, *Lin*, *Linden*, and in some parts of the United States, *Lime tree*, *Black Lime tree*, *Smooth-leaved Lime tree*. This is generally considered one of our finest forest trees, and is principally confined to the Northern States and Canada, where it frequently grows to the height of eighty or ninety feet, and four or five feet in diameter. The leaves are three to four inches wide, the bark on young shoots dark brown. The flowers appear in June, and are about a half-inch in diameter, the bunches (or cymes) being compounded of from twelve to twenty, are pendulous and on stems (*peduncles*) four to six inches long, attached to a floral leaf (*bractea*) which is long and narrow. The seed pod ripens in September and October, is about the size of a buckshot, is covered with a short, grey down, and usually contains but one seed.

2. TILIA AMERICANA LAXIFLORA, *the loose-cymed-flowered American Lin, or Lime tree.* This is a smaller tree than the former, seldom attaining a height of over fifty feet, and grows near the sea-coast from Maryland to Georgia. It greatly resembles *Tilia Americana* except in size and geography. It flowers from May to July.

3. TILIA AMERICANA PUBESCENS, *or downy-leaved Lin, or Lime tree*, is a smaller variety than either of the former, seldom growing more than forty feet high. The color of the bark is darker and the twigs more slender. The leaves are smaller; in dry, open places often not more than two inches wide; in rich, shady places sometimes they are three to four inches in diameter. It belongs to the southern portion of the United States, from Kentucky to Florida and Texas. The leaves are, when they first expand, covered with a down (*pubescent*) on the under side. As they grow a part of the down falls off, and what remains is in tufts or patches. It flowers in May and June. The flowers are more numerous and form larger bunches than the other varieties. The seed pod is globose and downy.

4. TILIA AMERICANA PUBESCENS LEPTOPHYLLA, or *Thin-leaved downy American Lin or Lime tree.* This variety has the same geography as the last and is represented to differ from it only in having thinner leaves with few serratures.

5. TILIA AMERICANA ALBA, (according to Michaux) TILIA AMERICANA HETEROPHYLLA, (of Ventenat) *White-leaved Lin or Lime tree*, White Basswood, *White Lime*, *Warhew tree.*

This variety equals in size of tree, the Tilia Americana first described, on the Ohio river frequently attaining a height of eighty to one hundred feet. The young shoots have a silvery gray bark with a rough surface, are thick and have on them in winter very large buds. The leaves are larger than on any other variety, being often eight inches in diameter, are dark green on the upper side and whitish beneath, with small tufts of down at the intersections of the principle nerves. The flowers are also larger than those of any other Linden tree, and are white without the yellowish tinge of the other varieties. It blooms in June. The seed pods are globose, downy, and have five ribs. The wood is whiter and more tender than the others. This tree belongs to the central portion of the United States, not extending farther east than the river Delaware, but as far west as Kentucky, north into Pennsylvania, Ohio and Indiana and south to Georgia, and South Carolina.

6. TILIA AMERICANA ALBA GLABRA, *Smooth-fruited White-leaved Linden. Large-leaved Lime tree.* This differs from the last in having purplish colored twigs, a yellow tinge to the flowers and in the seed pods being destitute of ribs. It inhabits the same district of country.

7. TILIA AMERICANA ALBA PENDULA, *White-leaved Weeping Linden.* This is a sub-variety of Tilia Americana Alba, with very large leaves and slender drooping shoots. It is only to be found in the nurseries among cultivated ornamental trees.

Mr. Gallup Called Up.

MR. EDITOR:—I do not wish to tease, annoy or perplex any of your able contributors, but there are several simple questions I would be glad to have light upon. You doubtless have scores of contributors who could answer the questions, but as one might wait for another and finally none answer, I will call on Mr. Gallup in particular. And 1st: Are bees strictly honest as they are undoubtedly industrious, or are they like the fallen race of Adam, cursed with thieves and robbers? 2d: If thieves exist among them, how shall we know them? 3d: How shall we go about protecting honest bees from their depredations? How shall we know the aggressor from the aggrieved, etc.? 4th: I see hives spoken of as being thoroughly ventilated. If the hive needs ventilation why do the bees take such pains to seal and glue up every hole or crack? 5th: Bees fasten and stick the hive to the bench or stand on which they set; is it not wrong to be interrupting the bees by breaking them loose constantly? 6th: Of course bees should be often examined for different purposes, but as it is said they will go to eating honey and filling themselves on all occasions when jarred or disturbed, ought they not to be disturbed by examination as seldom as possible? I confess I am a little ashamed to ask so many simple questions, but one must first expose his ignorance in order to gain light, therefore I will try cheerfully to submit to the humiliation. 7th: By reading the productions of some of the most eminent bee-keepers, I am inclined to think the business a very irritative one. Do apiarians imbibe the nature of the bees, which causes them to be so irritable, so ready to sting, fight, etc.?

If they do, my better half says she wishes me to drop all idea of the business, as she thinks I am too high strung already, and she will try to put up with nice tropical cane syrup or even sorghum syrup in the place of honey, rather than I should become any more irritable than I am. I hope the irascibility of bee-men arises from some other cause, as I am very fond of honey, and would dislike very much to give it up in that way.

The bee dysentery appears to be a very knotty question, now under discussion amoung bee-keepers. Dysentery I believe is generally admitted to be the disease. Remove the cause and the effect will subside as a matter of course. One cause has suggested itself to my mind which I have not seen hinted at by any writers, viz.: the too free use of the extractor. The honey being extracted closely, till late in the season when the bees were driven by necessity to gather and store away unhealthy food to obviate famine, but thereby gendering disease. My opinion is if the last honey gathered had been extracted, and some of the first honey returned to them to winter upon, the case would have been far different. Bee-keepers, examine this matter, and see if bees kept in straw hives, hollow logs, or plank boxes, where no extractor was used, suffered from dysentery to the same extent that those kept in movable comb hives did. The question needs investigation, and the evil should be remedied if possible.

W. E. FREEMAN.

Olustee Creek P. O., Alabama.

[For the American Bee Journal.]

What Caused the Disastrous Loss of Bees last Winter, and how may the Repetition of it be Avoided in Future?

In answering the above questions, I wish to call up some of the evidence given on this subject at the late Annual Meeting of bee-keepers at Indianapolis. Mr. Zimmerman said that old bees and long, cold winters were the causes, and that he let some of his swarms have a fly in a warm room, and that those all lived, while all others died. Now this flying set them to breeding, and they reared bees that lived while the old bees died. The fact that the working time of a bee is not more than sixty days, is not sufficiently considered. Mr. Moon said that every swarm he fed on sugar syrup lived; taking the syrup for the remedy, when the fact is it only stimulated breeding, and they reared young bees that could live until spring. Mr. Smith asked why one swarm died and another by its side lived. I say one reared brood late in the fall, while the other did not.

Mr. Pope said that his bees died with plenty of bees and honey in the hives, which shows that they had plenty of old bees, and did not rear brood late, for if they had, the combs could not have been filled with honey. Mr. Prentice thought it was epizootic. If so why did it not take all the apiaries as they came, instead of skipping all that were breeding up late in the season. Dr. Hamlin said there was great mortality among bees in Tennessee three years ago, and he was of the opinion that it was on account of too much honey. Here again we have the proof that they could not have reared bees late in the fall. Mrs. Tupper had no disease among her bees. The fact should here be stated that she was rearing queens and increasing stock until late in the fall, showing that her bees were young when put into winter quarters. She examined over 500 colonies of dead bees, and in nearly every instance there was too much honey and few bees. In the published reports of her travels in the spring of 1872, she sets down the trouble to be too much honey in almost every case. Now when we look and see what effect too much honey will have on a swarm of bees late in the season, we will see that it will exclude the queen from the use of the comb to lay eggs in, and in nearly every case the bees put into winter quarters were those that were reared in August, and could not have possibly survived another two weeks of active service in the fields, yet we see those bees called upon to survive five or six months of bitter winter and then go on and rear others to fill their places, which would take at least 30 days more; but the fact is they could not live always. Mr. Quimby said in the *North American Bee Journal:* "More bees perished in the Middle and Northern States during the winter and spring of 1872 than I have known in any season previous during 40 years." A calamity so universal requires close consideration into the causes that seem to produce the result. Now if I have shown the causes which produced such terrible losses among bees, allow me a few more words and I will try and point out the remedy, or the way we may prevent a similar calamity. Let every bee-keeper see that the queen has empty comb in the center of the hive, then stimulate to breeding by feeding two or three weeks before putting them into winter quarters, and then we shall have young bees that can live, if properly cared for, until the winter is passed and the spring has come.

J. W. Hosmer.

Janesville, Minn., Jan. 19, 1873.

[For the American Bee Journal.]

"Nothing from Nothing, and Nothing remains."

Now, Novice, I think it is a little too bad for you to pitch into us little fellows so, for not getting any more honey than we do.

You tell us to throw away our "old honey boxes" and use the extractors instead. I would like to have you come out here and handle over a few of the stocks in this part of the country.

I had a good many stocks that had their hives nearly full of comb in the Spring, but there would be lots of empty comb all through the summer, and the bees could not, or did not at least, gather much more honey than they needed from day to day. Fourteen out of my twenty-one stocks have honey enough to carry them through the winter, I think, and the other swarms I will have to unite and feed. Now what would you do in such a case as that? I used the extractor all that I dared to. The old rule at school used to be "nothing from nothing, and nothing remains," but it puzzles me to figure out how you can take something from nothing and have anything left, or in other words, how you can use the extractor on a stock of bees that have barely enough in the hive to keep them from starving, and the prospect mighty poor for any better harvest.

I expected to winter my bees out of doors, but the kindness of brother Cramer induced him to offer me a chance to put them in his cellar, which offer I gladly excepted, and we have all of our bees in their winter quarters, where they are so quiet that they look as if they were dead until we tap gently on the hives when they lift their hats (or wings,) to us to say they are all right.

I have one stock that I gave an Italian queen to late in the season, that are about half black and half Italian, and in opening the hive it is always the blacks that come at me, sharpening their stingers as they fly, while the Italians stay quietly on the frames.

It is up hill business to get any of the bee-keepers here to subscibe for the Bee Journal, for they are all afraid they are going to lose their bees this winter, and when asked, say, "wait until next spring and then if I have any bees left I will subscribe."

Yours truly,

W. M. Kellogg.

Oneida, Ill., Dec. 4th, 1872.

Explanation.

Editor Journal: In my article in December number of Journal, on my mode of wintering, I forgot to state that I have a tight board fence round my bees six feet or more high, to break the wind, and not to have any hives set in the shade of the fence, so every time the sun shines it warms up the hive enough to keep the frost out of the hive, and by this way the bees are kept perfectly dry, and it is very seldom that they are tempted to come out, and that only when the weather is warm enough so they can void their excrement and get back to the hive in safety. I think one reason of my heavy loss last winter was, I was so busy I neglected to attend to putting on the cobs in season. The cobs should be put on before there is any frost in the hives, and if there is not too much honey in the hive, the bees will cluster on the under side of the cobs, and in some cases, as I found to day, the bees come through the cobs at the ends and cluster on the under side of the paper. R. R. Murphy.

Fulton, Ill

[For the American Bee Journal.]

Intelligent Bee-Keeping.

I have kept bees for thirty years, and I must say that I have learned more by reading our standard Journal and other publications each year, for the last four years, than I had learned in all my previous experience. I have just been reading over the three last volumes of the A. B. J., and will say that it cannot be otherwise than a good investment of time and means for any person, even those who keep but two or three swarms, to do the same. Success to the A. B. J. and its readers.

M. Nevins.

Cheviot, Hamilton Co., Ohio.

The *Christian Union* of Jan. 8, 1873, says,: "A man in New Hampshire bought four swarms of bees ten years ago, and now has an income of $1,200 a year from honey. Go and buy four swarms of bees young man." To which good advice, we add, learn how to take care of them first. Not every man who begins by buying four swarms of bees, ends by getting $1,200 a year out of honey. Every beginner in apiculture, should buy a good bee book, and subscribe for a good bee journal if he desires to succeed.

THE AMERICAN BEE JOURNAL.

Chicago, February, 1873.

To Our Correspondents and Readers.

Have patience, good people, all! Rome wasn't built in a day, nor can editorial and publishing changes be accomplished in a day. Our own transfer, and that of the American Bee Journal, from the East to Chicago, has necessarily involved inconvenience and delay. Partly on this account, and partly because we waited for the proceedings of the North American Bee Keepers' Society, the January number was considerably behind time. That number, though bearing the Chicago imprint, was published and mailed in Washington. But for the adoption of this plan it could not possibly have appeared until the end of the month. This arrangement, however, has made it difficult to get out the present issue as promptly as could be desired, but we hope hereafter to be "on time."

Improvements in the American Bee Journal.

It was our original intention to have made some changes in the form and appearance of the Journal, commencing with the January number. As, however, the volume was only half completed, no alteration affecting the size of page could be undertaken, since it would spoil the set for binding. We find too, a strong feeling in favor of the present form and general appearance of the Journal, among its most attached readers. The eye gets used to a certain page, until it looks like the face of a familiar friend. On the whole, therefore, we have concluded to make no innovations at present, beyond stitching, and cutting the edges; improvements, which we are sure all will hail; and which we have no doubt, will help to promote good temper, and prevent the use of improper expletives on the part of our readers.

Our New Quarters.

We have established the publishing office of the American Bee Journal at 146 Madison street, Chicago, a very central spot, where we shall be at all times right glad to see our friends who may favor us with a call. We hold ourselves in readiness to "talk bee" with all comers, for a reasonable space of time, at the expiration of which we shall assume the prerogative of an editor, and gently say "bee-gone!" So soon as the spring opens, we intend to place a good movable-comb hive, tenanted by a nice colony of Italian bees, in one of our office windows, to show what the busy little workers can do in the heart of a great city, and to afford opportunity to explain to visitors the wonders of bee life, and the advantages of movable-frame hives.

Overdue Accounts.

As will be seen by a reference to Mr. George S. Wagner's advertisement in another column, subscribers and advertisers who are in arrears, are requested to make payment, as promptly as possible, to W. F. Clarke, American Bee Journal, Chicago. We have received several letters expressing readiness to remit, and asking for statements of account. It is not possible to send these immediately. They will be forwarded so soon as the books can be properly posted, and the bills made out. It was Mr. George S. Wagner's intention to do this some months ago, but his hands were too full, as are ours just now. Some, conscious of being in arrears, and not knowing the exact amount due, have remitted sums on account, which were very welcome, and will be found duly acknowledged.

Hives, Extractors and Apiarian Supplies.

We propose, so far as the capacity of our office will admit, to keep samples of hives, extractors, bee-feeders, honey knives, and bee-keeping requisites generally, for the double purpose of exhibition and sale. Dealers who desire to do this kind of business with and through us, will send their samples free of cost to us, and duly notify us of their selling price, and the agency per centage they are willing to allow on orders obtained by us. Having no interest in one man's article more than in another's, and being only anxious to get all bee-keepers supplied with the best conveniences, we shall deal impartially and fairly with every one, and shall fill all orders that may be given or sent to us, with fidelity and despatch.

Our New Publishers.

The American Bee Journal is printed for us on contract by J. S. Thompson & Co., General Job Printers, 35 Canal Street, corner of Washington. We find our new publishers competent, courteous and obliging. They have a well stocked office, their prices are reasonable, and they turn out good work. We have begun with a good opinion of them, and hope only to alter that opinion by thinking better of them.

Club Rates.

A desire has been expressed by several correspondents that we would hold out inducements to get up clubs for the American Bee Journal. We have therefore decided to make the following offers:

$1.75	per year	in	clubs of	2, or	$3.50
1.67	"	"	"	3, or	5.00
1.50	"	"	"	6, or	9.00
1.40	"	"	"	10, or	14.00
1.25	"	"	"	20, or	25.00

To Contributors.

We have to thank many friends of the Journal for the valuable articles they have contributed for its columns. Quite a number of these articles are crowded out this month, but we hope to let them see the light in our next issue, and we trust that all who have been accustomed in the past to help fill these pages will continue their valued labors.

Back Numbers and Volumes.

In reply to several correspondents, we would say, that we can supply back numbers of the current volume, but for the numbers and volumes up to Vol. VII., inclusive, application must be made to Mr. George S. Wagner, Washington, D. C.

Question Department.

Having received a number of questions, we have thought it might be interesting and instructive to commence a "Question Department," and leave them open for general discussion. Our correspondents who are at a loss for topics to write about will find "some" here.

Question No. 1.—It is said that young bees hatched in the fall, or winter, die before spring, unless they can fly out to empty themselves. Is this so?

No. 2.—Will the different varieties of honey separate after being extracted?

No. 3.—Do bees take any rest, in the cells or out of them, and if so, at what times or seasons?

No. 4.—Will it pay to double stocks in the spring?

No. 5.—Is it possible for bees to avoid the secretion of wax?

No. 6.—What becomes of the wax of the new swarms when kept in the old stock by bad weather, or other causes, or when located in hives stocked with combs?

No. 7.—What is the best method of dividing bees?

No. 8.—Why do young swarms sometimes leave the hives after being hived?

No. 9.—What is the best method of obtaining all straight and worker combs?

No. 10.—How early or how late in the life of queens can they be fertilized?

No. 11.—Can eggs be transported any distance, or how long will they keep good?

No. 12.—Is there any standard of purity of the Italian, or any other variety of bees?

Mr. Grimm on Mr. Furman.

[The subjoined communication was sent to Mr. G. S. Wagner, by whom it has been forwarded to us with an expression of opinion that its publication is an act of simple justice to the writer. Desiring to pursue a just and impartial course toward all, we give it insertion, sincerely regretting that Mr. Grimm should be under the necessity of so defending himself.—Ed. A. B. J.]

[For the American Bee Journal.]

Being compelled to stay at home during the last six days on account of a severe cold, I took a notion to look over some of my old correspondence for the sake of shortening the time, and happened to find a letter which I feared was destroyed long ago. It was written by Mr. W. H. Furman, Cedar Rapids, Iowa, July 5th, 1869. Mr. W. H. Furman, in the May No. of the 7th Vol., page 260, 1st column, made a very severe remark about some Italian queen bees he got of me. He said, "Gallup's blowing Grimm doesn't suit me." After stating that he had received numerous letters from parties complaining of Grimm's queens, he goes on to eulogize Mr. Grimm and his queens: "I have also received a great many letters, and seen parties personally, who have made complaint of Grimm's queens. I myself have received twenty-one tested queens (so he said) from Mr. Grimm, and not one proved *what I considered pure*, and if Mr. Gallup breeds from such queens, no wonder he has to puff them through the papers. Breeders and managers of large apiaries know that a man cannot succeed in keeping his stocks pure with the amount of labor Mr. Grimm reports to the Department of Agriculture, as used in carrying on his apiary."

Now for facts: Mr. W. H. Furman ordered, in a letter received on September 25, 1868, five tested queens raised from imported stock, and ten raised from my former stock. Those queens were sent on October 4th following, and I heard not a word from him until his letter of July 5th, 1869, was received. I answered that queens reared from imported mothers were darker and their workers not as bright as the workers from my former stock; that the queens I sent him were pure, so far as I was a judge, but would send him three more tested queens. On July 8th I sent those three queens and never afterwards received another line from him. Could any one think otherwise than that Furman was satisfied? It will be seen that my statement does not agree with Mr. F.'s. He claims he received twenty-one queens. I sent him in all but eighteen. He stated in his attack on my queens that he considered none of them pure, while in his letter of July 5th he says that only three were impure, and that he could not raise any good queens from them. In his letter Mr. F. states that he lost six queens in introducing. How could he tell, then, that *those six* were impure? To me it seems that he was bound to say something against my queens, even at the cost of truth. Mr. Editor, some of the readers of the JOURNAL would doubtless set down my statement above as a mere assertion if I was unable to forward proof. But it happens that I can do so. Enclosed I send you Mr. F.'s letter of July 5th, 1869, with envelope to satisfy you of its genuineness, earnestly requesting you to insert it *verbatim:*

"CEDAR RAPIDS, Iowa, July 5, 1869.

"ADAM GRIMM, Esq.—Dear Sir: I presume you will recollect shipping me fifteen queens last fall. It being so late I could not tell as to their purity till the brood commenced to hatch this spring. I found this spring that the progeny of three or four was not what I called all right, but I have not said anything till I had tested them the second time by raising queens, and from three (3) of them I can't raise any good queens, and I am convinced that they are not pure. I have had others examine them and they pronounced them impure, and I hope you will send me three pure and tested queens at once, as I bought them for tested ones. I looked for them to be so, but it appears they are not, and this is three out of nine as I had the misfortune to lose six of the fifteen when I introduced them, and in the winter so that I could not tell what they were, but that is nothing to you. I would say that I do not breed from the fourth queen, as I don't think her queens what they ought to be, but I will be satisfied with three. Hoping to hear from you by return mail, I will close. Yours respectfully,
W. H. FURMAN."

And now, dear Editor and readers of the BEE JOURNAL, do not think that I write the above statement with the intention of saving my reputation as an Italian queen breeder. A number of friends had already considered it their duty, without my request, to report to the JOURNAL. I have no intention to breed another queen bee for market, only in case I should have more stocks on hand than I conclude to winter, I might offer for sale the queens those stocks contain in the latter part of the season next year. Hoping that my friend will excuse me for extracting from his letter without his consent, and that you, Mr. Editor, will insert my above short communication as from a party who was, without provocation or good reason attacked in a communication to your valuable paper, I am

Yours respectfully, A. GRIMM.
Jefferson, Wis., Dec. 23, 1872.

The Inter-Ocean.

We beg to call attention to the advertisement of the above newspaper, which appears elsewhere in our columns, and in doing so, clip the following from its daily issue of Jan. 30th, 1873:

"OUR RURAL DEPARTMENT.

In view of the intrinsic importance of the agricultural interest and our rapidly increasing circulation among the farmers of the Northwest, we have been anxious for some time past to place this department of the INTER-OCEAN in the best and most competent hands we could possibly secure for the task. Our editorial corps is this week augmented by the addition to it of Rev. W. F. Clarke, a gentleman long connected with the agricultural press in Canada, and well known personally and by reputation to many of the leading agriculturists in the United States. Mr. Clarke spent his early days on a new farm, and knows all about 'roughing it in the bush.' Though his attention was turned to another profession as his main business, he has always retained his interest in, and his love for, country life, He was for five years editor-in-chief of the *Canada Farmer*, the only agricultural paper in the Dominion of any account, and both as a writer and speaker on rural topics has won for himself a good name. He attended, as our representative, the great Farmers' Convention, recently held at Bloomington, also the annual meeting of the Northwestern Dairymen's Association, at Whitewater, Wisconsin, and his reports of the proceedings on those occasions prove that he is at home on subjects connected with husbandry. We may add that Mr. Clarke is President of the North American Bee-keepers' Society, and editor of the *American Bee Journal*, now published in this city, so that our readers may expect him, among other things, to tell them 'all about bees.' We confidently anticipate that, under his charge, our department of 'Farm, Garden and Home' will be found all that can be desired."

* * *

THE NORTH-EASTERN BEE-KEEPERS' ASSOCIATION will hold its Third Annual Meeting at the Butterfield House, Utica, N. Y., on the 5th and 6th of February, 1873.

Questions of importance to bee-keepers will be discussed. All persons sufficiently interested in bees to ask a question or answer one concerning them are invited to attend.

Bee-keepers, please prepare reports of the last season's experiments and operations. Rev. W. F. Clarke, President of the North American Bee-Keepers' Society is expected to be present.

M. QUINBY, President. J. H. NELLIS, Secretary.

Our Reception.

Last month we published a number of extracts from letters of leading apiarians, endorsing the proposed transfer of the AMERICAN BEE JOURNAL. Since the appearance of the January number, we received a host of similar communications. At first we proposed to publish extracts from all of them in our February issue, but they came so thick and fast that we soon found it would be quite impracticable to do so. That others may share to some extent the gratification these letters have yielded us, we insert one of the most enthusiastic in full, together with extracts from several others, assuring all who have sent us kind greetings and good wishes, that their welcome epistles are not only a source of much pleasure, but also of stimulation and encourgement in the enterprise we have undertaken:

FROM GEORGE S. SILSBY, WINTERPORT, MAINE.

"HURRAH!—The arrival of the January number of the AMERICAN BEE JOURNAL to-day was greeted by me with a vigorous *hurrah!* The new features on the clear, familiar face at once suggested that a change had been made, which to my mind, augured well for the future of the Journal that we all love. There are but few American writers upon apicultural science who have interested me so much as Rev. W. F. Clarke, and therefore I most heartily rejoice that the Journal is now safely under his care and supervision. The fact of its having been conducted suspiciously near the interests of certain patent rights was enough to surround it with a cloud of misgivings and doubt which even its staunchest apologist failed to dispel; but the happy change in proprietorship has lifted it into the clear sunlight, and there can be no doubt that the good old Journal, rescued from the peril it was in, will, in the able and impartial hands of Mr. Clarke at once become the ablest, most scientific and valuable apicultural publication in *this* or any other country.

"Only think of it friends! With perfect freedom from bitter personalities and acrimonious dissensions growing out of individual or local interests, the special advocate of no *patent*, but a common medium for disseminating valuable information contributed by scores of able writers, how can the Journal fail to take the *front rank* as the advocate and exponent of progression and scientific bee-culture? As such it will richly deserve, and I doubt not will receive a hearty and generous support from American bee-keepers. Let its friends everywhere rally around Mr. Clark and aid him in the glorious work he has so auspiciously commenced."

FROM N. P. ALLEN, SMITH'S GROVE, KY.

"I received the American Bee Journal for Jan., 1873, and read it with much interest, and I feel like saying that I still love the American Bee Journal, and will still support it and work for its success. With your opening address at the National Convention as an introductory to you, Mr. Editor, I am well pleased. We want a live man at the helm, who is honest, open, and frank, who will not allow the columns of the Journal to be used for selfish ends. We want facts and not guesswork. I see from your salutatory, that Gen. Adair and W. R. King are under special pledge to watch over the apiarian interests of the South in the columns of the Journal, which I hope they will do."

FROM G. M. DOOLITTLE, BORODINO, ONONDAGO CO., N. Y.

"I have discontinued my patronage of all the other Bee Journals, as I do not consider them worth the money. I recommend the American Bee Journal wherever I go, and do not hesitate to say it is worth twice as much as all the others published in this country. Hurrah for the American Bee Journal, the old stand-by, and the season for 1873."

FROM JAMES BOLIN, WEST LODI, O.

"I am glad that you have purchased and taken charge of the American Bee Journal, as I think we shall have in the future *one paper*, at least, that will be devoted to the interests of American bee keepers and not to that of some patent hive."

FROM C. C. MILLER, CINCINNATI, O.

"I am glad you have taken hold of the A. B. J., and glad you have brought it to Chicago."

FROM J. L. HERSEY, TUFTONBORO, N. H.

"It is with pleasure that I observe the change of the American Bee Journal from Washington to Chicago, and think its field of usefulness will be much enlarged"

FROM W. H. FURMAN, CEDAR RAPIDS, IOWA.

"I will be glad to support the American Bee Journal, and do all I can for it, under your charge, as I have heretofore, it being conducted impartially and fearlessly exposing all humbugs and deceptions practised in our favorite pursuit; let that fall where it may."

FROM ELI SHULYE, BROWNVILLE, IOWA.

"I have just received notice of the transfer of the American Bee Journal to you, and have to say that I wish you all the success you can wish for."

FROM R. M. ARGO, LOWELL, KY.

"I am just now taken by surprise at receiving the first No. of A. B. J. for 1873, from Chicago by you. From all I know of you, through report, the Journal could not fall into better hands, and I hope you will stand faithfully to your promise to keep the American Bee Journal up to its former standard of high toned, disinterested and impartial excellence. I had from the second volume pledged to Samuel Wagner my support and friendship for the Journal, and have maintained the same to this day, and will continue steadfast to do so as long as the Journal keeps impartially on the same track, no matter who the engineer may be."

FROM J. M. JOHNSON, MENTOR, O.

"I am glad to see your name at the head of the American Bee Journal, believing you to be *the right man in the right place.*"

FROM E. KRETCHNER, COBOURG, IOWA.

"Glad to see you at the head of *our* Journal, *ours* because I have been a subscriber, &c., since its first copy was issued, and always felt as much interest in it as though I were one of its proprietors, and, whenever time will permit, I will furnish a communication."

FROM HERBERT A. BURCH, SOUTH HAVEN, MICH.

"As you have expressed the desire to hear from those engaged in apicultural pursuits, a word from myself may not be wholly improper inasmuch as I have long been connected with the old A. B. Journal. If it shall be conducted in the interest of the whole people, henceforth, treating all fairly and impartially, thereby making it the people's organ and champion, you have my best wishes for your complete success. Moreover, if there be anything I can do that will add to the value of your columns I shall be happy to aid you. I have no personal aims or partisan ends to promote, but wish to see the best interests of apiculture advanced, and shall ever try to add my mite, for the accomplishment of this most desirable end."

AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY W. F. CLARKE, CHICAGO, ILL.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

VOL. VIII. MARCH, 1873. No. 9.

[Translated for the Smithsonian Institution.]

Alternate Generation and Parthenogenesis in the Animal Kingdom.

A LECTURE DELIVERED BEFORE THE VIENNA SOCIETY FOR THE DIFFUSION OF SCIENTIFIC KNOWLEDGE, BY DR. G. A KORNHUBER.

Among the various questions whose scientific explanation is the province of animal physiology, none has perhaps excited the interest of the people, as well as of scholars, to a higher degree than the propagation of organisms.

While in former times naturalists entertained the most various opinions and hypotheses, or indulged in the most chimerical speculations, modern science, armed with more perfect knowledge and greatly improved instruments, and more familiar with methods of exact research, has gradually succeeded in shedding some light on these mysterious processes.

These processes in general consist in this, that certain bodily constituents are from time to time separated from individual beings, and are developed into others of the same species. If the action of a second animal substance is necessary on such separated germs, which then show the characteristic structure of eggs, and are called ova, the process is called sexual propagation or generation; but if the germ under favorable external circumstances may become a new being without such action, this more simple though less general process is called unsexual or agamic reproduction.

To the latter belongs a series of phenomena to which I have the honor of directing your attention this evening; phenomena which have been accurately studied and verified only within the last two decades. A law has been established of the highest importance, not only to zoölogy but to all natural science, which has been named that of "*Alternate Generation and Parthenogenesis.*"

It was the brilliant Danish naturalist Steenstrup who, in the celebrated essay on "Alternate Generation," (Copenhagen, 1842,) first showed the way that would lead to a satisfactory explanation of the complicated phenomena attending the multiplication of the lower forms of animal life.

By alternate generation, Steenstrup understood the power of an animal of producing progeny differing from the mother, but itself capable of producing young, which again return to the form and character of the first parent; so that the daughter would not resemble the mother, but the grandmother. Sometimes this return to the original form occurs only in the third, fourth, or yet further removed generations. The peculiarity of this phenomenon not only consists in the alternation of different progeny, but also in that of sexual and sexless reproduction. One generation may consist of sexually developed males and females, and beget young from eggs, and the next may be sexless, and may bring forth young by fission, by buds or germs. These animals capable of agamic propagation were called *nurses* by Steenstrup, because it is their function to provide for the alimentation and development of the sexual animals. The number of sexless intermediate generations, as well as their degree of development and organization, differs in different species. They either possess provisory or temporary organs, and are therefore larvæ, or they are fully developed individuals, and already show the construction and mode of life of the sexual animals. The sexless larvæ of animals, such as butterflies, which undergo simple metamorphosis, are distinguished from our nurses by their inability to multiply by agamic reproduction; so that we may, according to Leuckart, consider alternate generation with nurses as a metamorphosis combined with agamic reproduction.

Alternate generation, very aptly called *metagenesis* by R. Owen, was first observed in the salpæ, a kind of mollusks which are as remarkable for their form as for their mode of life. They belong to the tunicata, and are found in great numbers in the ocean, the Mediterranean, and in all southern seas. They swim about a little below the surface, and present the appearance of oval or cylindrical bodies, clear as crystal, moving about either isolated or united in long chains, by taking in water and expelling it again.

Our German lyric poet, Chamisso, remarked, in his voyage around the world, that the isolated salpæ could not be members of a severed chain, because they did not resemble the individuals of the latter. He furthermore recognized that the solitary salpæ always contained a progeny resembling the chain, while the individuals of the latter contained a fœtus formed exactly like the solitary salpæ. Chamisso published his interesting observations in 1819, at Berlin, in an essay entitled *De animalibus quibusdam e classe vermium linnæana, Fasc.*

I. de Salpa, in which he expressed the view that the solitary salpæ proceeded from the individuals of the chain and the latter from the solitary ones. Chamisso's discovery was but little appreciated at first; it was even ridiculed as the vagary of a poet, until it was brilliantly defended by Steenstrup in 1842, and confirmed and expanded later by the accurate investigations of other zoölogists. We know now that the loosely connected chain is composed of hermaphrodite sexual animals, generating an embryo usually from one egg only, which remains connected for a time with the mother by means of a kind of placenta, and is nourished by it until, having attained a considerable size, it escapes and forms the solitary or isolated salpa—the only case of viviparity among the tunicata. The solitary salpa then generates a chain of sexually developed individuals by gemmation from buds, which take the place of male and female organs of generation, and thus represent their nurse.

On the coasts of the North and Baltic Seas immense swarms of clear, watery, bell-shaped creatures may be perceived in summer, swimming slowly around below the calm surface of the water, with their convex surface upward and their concave downward. These are the *Aurelia aurita, L.*, a species of acraspedote, or unfringed medusa, some of which are male and some female, as is the case in all medusæ. The sexual organs are ruffle-like folds on the inner skin of four bags or folds in the gastrical cavity, which open outward at the bottom of the stalk. By simple ciliary motion the seed of the male passes into the bags of the female and fecundates the eggs. These then pass out into the folds of the tentacles, where they are developed to embryos, which are provided with a very tender covering of cilia, and move about freely in the water like infusoria. This phase of evolution was formerly considered as a separate species, called *planula*. Soon, however, the cilia falls off, and the animalcule, thus deprived of its locomotive organs, sinks to the bottom, attaches itself to firm objects, and grows longer. In the free end a cavity soon appears, which gradually increases and is developed into a mouth, from which wart-like excrescences or papillæ shoot out and are afterward converted into tentacles. The animal has now the appearance of a polypus; and it was, indeed, formerly so considered, and called *hydra tuba*. After some time—perhaps months—a circular depression is seen just below the crown of tentacles, followed by others behind it. These depressions become deeper and deeper, and short projections appear in their edges, which afterward also develop into tentacles. The whole now bears a distant resemblance to the so-called *strobila*, or fir-cone, or to a set of flat cups resting on a columnar foot, the polypus. The separate divisions of the strobila are the origin of the future medusæ. They develop more and more, one after another, separate from their pedestal, and afterwards attain their permanent form, size, and maturity. They now turn the convex surface by which they were attached, upward, while the mouth, which was before turned up, now points downward. In the aurelia there is, therefore, an intermediate or nurse generation during the polypus stage, in which the animal is multiplied in an agamic way by gemmation and fission. Each of the individuals so produced is again developed into a sexual medusa.

In medusæ of lower organization belonging to the hydroids, which Gegenbauer has called craspedote, because their disk is provided with a velum, a similar kind of alternate generation takes place, with the exception, however, that the polypoid nurse reaches a much more advanced stage of independent development after leaving the ovum. It grows to a stalk of considerable size, and puts forth numerous polypus-buds. It is only when the colony has attained a high degree of development that the sexual animals are formed, which separate from the stalk, swim about independently, and deposit their eggs in remote spots.

In other hydroids the nurse acquires a still greater importance. In them, as in our sweet-water polypi, the sexual progeny appears only in the shape of globular appendages, which are not capable of being evolved into independent animals, but remain attached to the polypus-stalk, and resemble organs for the production of the sexual secretions.

We may with Gegenbauer call this latter form of alternate generation *imperfect metagenesis*. We see another remarkable instance of it in the peculiar many-shaped colonies known as *Siphonophoræ*, which swim about freely in the sea, and of which the *vraya dipheys, Blaine*, occurring in the Atlantic and the Mediterranean, may serve as an example. From the transparent ovum of this animal a ciliated larva is hatched. The plastic material contained in the body of this larva or nurse is then differentiated into a locomotory piece, (the posterior of the two swimming-bells at the beginning of the stalk of a ripe colony,) and an appendage which afte ward becomes the second bell and the common strlk of the whole colony. The individuals now budaforth from this stalk in a fixed order, but do not separate. They remain so connected that their abdominal cavities all open into the canal passing through the common stalk. These individuals are not by any means formed alike, nor do they serve the same physiological purpose. The principle of the division of labor, which is carried out in the solitary animals so that their organs become constantly more numerous and more perfect, is here applied in such a manner that the various functions of animal life, motion, alimentation, defense, and aggression, as well as sexual reproduction, which is otherwise confined to single individuals, are here distributed among all the animals of the whole colony. In every tuft along the stalk, which sometimes numbers as many as fifty of them, we distinguish *nourishers* in the form of trumpet-shaped appendages with orifices called suction-tubes; *aggressors*, in the form of long contractile filaments or tentacles furnished with microscopic weapons (nettle-cells) at their knobs; *defenders*, in the form of stiff scales or helmets attached to the nourishers for purposes of defense; *reproducers*, developed after all the rest, in the form of racemous diæcious capsules swinging in small (special) swimming-bells. By the alternate contraction and expansion of the bell-shaped *swimmers* at the upper end of the colony, (the base,) with which the smaller special swimming-bells move in time, the whole colony is propelled through the water.

In a few other species, the *physalidæ* and *vellelidæ*, the sexual animals separate from their nursing-stalk and have a short, independent existence like the medusa.

The alternate generation of some of the intestinal worms is attended by the most wonderful and extraordinary circumstances. The most curious opinions have prevailed until very lately about their origin and reproduction.

On account of their various wanderings through different animal bodies, the *trematodes*, and more especially certain species of the genus *distoma*, so called on account of two suckers or stomata on the flat part of their bodies, are of peculiar interest. From the egg of the distoma a ciliated embryo, resembling infusoria, is produced, which swims about in the water, attaches itself to certain sweet-water snails. (Linnæus, Planorbis, &c.,) and penetrates into their bodies. There it grows, loses its cilia, and develops a mouth and an alimentary tube. Its contents aggregate into cellular heaps, which gradually assume a definite shape, and are converted into small animals. These essentially possess the structure of mature trematodes, but are sexless and have a tail-like appendage; they increase slowly in size and expand the worm which contains them, and which seems to have no other function than to protect them and promote their development, *i. e.*, to act as their nurse. When completely developed they pierce the envelope of their nurse and move about freely in the body of the snail until they pass through this also, and glide through the water with a winding motion by means of their tail. In this form they had long been known to naturalists under the name of *cercaria, Nitz:* but their relation to the trematodes was unknown until quite recently. The cercaria afterward seeks a new host among the many inhabitants of the water, (fish, mollusks, crabs, insect-larvæ, etc.,) penetrates them by means of its proboscis, and there loses both its tail and the sting of its proboscis, as no longer necessary to its new mode of living. It is now converted into a distoma.

If the animal finds all the conditions necessary to its perfect evolution in its new host, it continues to grow until it has attained maturity. If this is not the case, it remains small and sexless, surrounds itself with a transparent shell, which it secretes from the surface of its own body, and remains in a state of rest and inactivity like a pupa until its host is eaten up by a larger and stronger animal. Hence we find it in the intestines, the gall-bladder, the biliary ducts, the kidneys, etc., of higher animals, especially of ruminants, (in the liver of sheep, cattle, goats, and deer;) also in asses, hogs, hares, etc., and in rare cases in man. (*Distoma hepaticum, L.; Distoma hæmatobium, Bilharz.**)

Sometimes it happens that the progeny of the worm-like nurse does not immediately assume the form of the cercaria, but that of the mother. In that case an intermediate generation of larvæ is produced, which act as nurses of the cercaria, so that the worm resulting from the embryo might be called the grand-nurse.

Thus the numerous and fertile multiplication of germs by means of agamic reproduction counterbalances the difficulties and obstacles which these animals have to encounter in their various migrations through other organisms before they reach their perfect form.

Formerly the *tape-worm* was considered nothing more than a simple animal having a head and an articulated body. Since Steenstrup's time, however, and especially through the more recent investigations of v. Siebold and van Beneden, we know it to consist of a chain or colony of differently-formed individuals. The larger posterior joints (the so-called *proglottides*) represent the organs of generation, and contain many thousand eggs in their ramified ovaries. In these, microscopic embryos are developed, which are discharged when the ripe joints fall off with the excrement of the host. The embryos do not then leave the eggs at once, but remain in their envelopes, which are well fitted for resisting putrefaction or chemical agents, until the eggs are accidentally swallowed by some (usually an herbiverous) animal. In the intestines of the latter the embryo forces its way through the egg-envelope, softened by the digestive juices, pierces the intestinal walls and neighboring tissues, until it reaches a vein and is carried by the blood to more distant organs, in whose parenchyma it remains. After losing its embryonic hooks, the tape-worm larva grows to a bladder of varying size, along the walls of which numerous buds (the later "heads") arise in such a manner that the hollow body of the tape-worm head extends into the bladder. Such colonies were long known and considered as different species of animals. When one of them gets into the intestines of a larger animal, the head or bud provided with hooks and suckers is turned inside out, the bladder is digested, and the joints of the tape-worm (the real sexual, hermaphrodite individual) begin to grow behind the head. The reproduction of the tape-worm, therefore, passes through three different phases: The worm-like embryo or grand-nurse, the so-called tape-worm head or nurse, and the mature sexual animal.

With the exception of the salpæ, we have so far only considered cases of metagenesis where the nurses are in the form of larvæ. In the *arthropods*, among the *diptera*, we also find such nursing larvæ—an entirely new and remarkable phenomenon first discovered in the fall of 1861 by Nicholas Wagner, professor of zoölogy, in Kasan. It produced no small excitement among zoölogists, and was the cause of so much astonishment that v. Siebold himself designated it as hardly credible on receiving, after some delay, Wagner's essay in the "Zeitschrift für wissenschaftliche Zoölogie," 1863, vol. xiii, p. 513. Wagner could not then describe clearly the insect-larva which he had recognized as capable of reproduction, and v. Siebold took it from the illustrations to be a cecydomyde larva. Not long after, however, Dr. F. Meinert,* of Copenhagen, not only fully confirmed his beautiful discovery, but extended it by proving the different phases of development up to the imago, which Wagner† had meanwhile also accurately investigated. Meinert calls it the *miastor metraloas*, but according to the later researches of our excellent dipterologist, Dr.

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*Zeitschrift fur wissenschaftliche Zoologie, 1853, vol. iv, pp. 53–76 and 454–456.

* Zeitschrift fur wissenschaftliche Zoologie, vol. xiv, p. 394.

† Vol. xv, p. 106.

Schiner, reported to the imperial zoölogical-botanical society in February, 1865, it hardly seems to differ from the genus *heteropeza Winnertz*. Reproduction takes place by means of germs. From seven to ten of these arise out of the accumulated plastic material in the body of the "mother-larva," and develop to "daughter-larvæ." The former is thereby gradually destroyed, and the progeny tears her skin and passes out. After three or five days the same process of germination begins in the new larva, and this continues from August to June, when all the larvæ of the last generation simultaneously pass into the pupa state. After three or four days the perfect insect, a small reddish-brown fly, emerges from the pupa. The correctness of these observations was afterward verified by v. Bær and v. Siebold, and Professor Alexander Pagenstecher, of Heidelberg, observed the same thing in another species and accurately described it.*

Metagenesis, with mature individuals as nurses, is exemplified among the arthropods by the aphides. As early as the middle of the last century, Charles Bonnet† had already communicated exact observations on the peculiar and remarkable mode of reproduction of the aphides, (plant-lice.) These well-known enemies of our gardens and green-houses cover the leaves, shoots, and branches of certain plants in thick swarms, and defy all our exertions to get rid of them by their extreme fecundity. During the summer months there is a series of nine or ten generations of fully-formed but sexless animals, or nurses, which bring forth living young without fecundation, and even without the presence of the male. Embryos are formed immediately from germs, which do not show the structure of true ova. They separate from peculiar tubes (germinal tubes) and develop in the body of the mother. In autumn the next to the last generation produces sexually developed males and females, which really cohabit. As in most insects, the male then perishes, while the female lays eggs, which hibernate and produce a new race of nurses the following spring. The anatomical examination of these animals, which was first undertaken by v. Siebold, and afterwards confirmed by Leidig, shows that the viviparous individuals are well developed, and resemble the oviparous females of the last fall generation, but that they are sexless nurses, because they lack the seed-bladder belonging to all female insects, and are, therefore, incapable of receiving the male seed.

All the phenomena of alternate generation were also called "*Parthenogenesis*" by the excellent English anatomist, Richard Owen, in 1849,‡ and this name, although somewhat inappropriate, was generally received on account of its euphony. When, however, the surprising discoveries of the last few decades put in question the theory that "every true egg cannot be developed into a new individual, (animal or plant,) unless it has been previously fructified by the action of the male seed," it seemed expedient to confine the term "parthenogenesis" to the new phenomena. In this sense it was first used by the ingenious founder of this important new theory, the distinguished zoölogist of the Munich University, Karl Theodor v. Siebold, in his paper on "True Parthenogenesis in Butterflies and Bees; an Essay on the Reproduction of Animals. Leipsic, 1856."

Parthenogenesis or virginal generation, according to Siebold, comprises "those phenomena which demonstrate that *true* ova may be developed into new individuals without the fecundating intervention of the male seed."

There is no want of observations of former times according to which the eggs of virgin insects were said to have produced new individuals, but they were considered erroneous. Zoölogists doubted that they were made with proper care, and attempted to explain them in different forced ways, finally classing them under metagenesis. Among them are the communications of De Geer on the psychides, and of Herold on the silk-worms. In 1845 the celebrated apiculturist, K. Dzierzon, a Catholic priest at Karlsmarkt, east of Brieg, in Prussian Silesia, emphatically maintained in the "Bienenzeitung," p. 113, that the eggs from which the male bees or drones originate are produced and developed by the sole inherent power of the mother bee without the action of male seed. This view at first seemed simply incredible to apiarists; they supposed that he had either deceived himself or intended to mystify others. But when Dzierzon reiterated his statement he was severely attacked, and the dispute continued for a long time.

Until 1852 Dzierzon stood alone against their attacks, but undaunted, unconquered. He could fall back on the experience of many years. Every one knows that there are queens which produce only male progeny or drones, and never lay an egg from which mature females, queens, or stinted females, workers are developed; that there are others which may lay female eggs for a time but afterward become like the former, and that finally there are worker-bees which lay eggs, which give birth only to male individuals.

Among the first class Dzierzon frequently found bees whose wings were lame. They were thus prevented from making their hymeneal flight from which they would otherwise have returned impregnated. Other queens, which laid male eggs from the beginning, were hatched either very early or very late in the year, at a time when there were either no more or only very few drones left, so that their flight was in vain. Queens which at first laid normal eggs and afterward produced only drones were older individuals, whose stock of seed had become gradually exhausted. Worker-bees, which sometimes lay eggs and never have any other than male progeny, have never been and are indeed incapable of being impregnated. From these facts Dzierzon concluded that impregnation was unnecessary to the production of drones. That in common normal generation, where the queen returns impregnated from her flight, the drones are developed from unfecundated eggs, *i. e.*, from those through whose micropyles the spermatozoa have not penetrated, is proved by Dzierzon from the following fact: After the introduction of the Italian bee, (*apis ligurica*,) distinguished by the light color of its posterior abdomen, all the young drones from an Italian queen and a German father were true Italians, while the female progeny were clearly mixed.

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* Zeitschrift fur wissenschaftliche Zoologie, xiv, p. 400. Further investigation of this subject is communicated by Leuckart, in Troschel's Archiv., year XXXI, No. 3.

† Traite d'Insectologie, tome I: Paris, 1845.

‡ On Parthenogenesis; a discourse introductory to the Hunterian Lectures on generation and development for 1849. Delivered at the Royal College of Surgeons of England: London, 1849.

The convincing truth of these facts and the logical, conclusions drawn from them at last brought such eminent bee-masters as Pastor Georg Kleine, of Lüethorst, in Hanover, and August v. Berlepsch of Seebach, near Gotha, into Dzierzon's camp; but they found no entrance as yet into zoölogical science, because these practical men were unable to furnish the proper scientific proof to physiologists, who either did not know or purposely ignored these phenomena.

The important discovery of the micropyle of the insect-egg, made almost simultaneously in 1854 by Meissner,* of Göttingen, and Leuckart,† of Giessen, raised the hope of the apiculturists, and seemed to make it probable that Dzierzon's views would be proved by scientific men. At the thirty-first meeting of German naturalists and physicians, held at Göttingen in 1854, Pastor Kleine succeeded in winning Professor Leuckart for his cause just as the latter had demonstrated his beautiful discoveries about the eggs of insects. Leuckart had never been able to obtain any bee-eggs, and was then for the first time, according to his own confession, initiated into the mysteries and problems of bee-life.

The first direct proof of the existence of real parthenogenesis was furnished by Leuckart in the "Bienenzeitung," 1855, p. 127, where he communicated the results of the microscopic examination of a queen-bee sent him by Baron Berlepsch. This queen had been hatched in September, 1854, a time when no drones existed. The next spring she had filled fifteen hundred cells with male progeny. On dissection it became evident that the queen had not been impregnated. She was a normally formed female with seed-pouch and eggs; but instead of spermatic filaments the former contained a perfectly clear liquid, devoid of granules or cells, just as in the pupæ of queens.

In order to establish Dzierzon's view fully it still remained to be proved that in impregnated queens laying normal eggs, the males are also develeped from unfecundated eggs. For this purpose Baron Berlepsch invited Professor Leuckart to Seebach, where he could institute microscopic investigations. Leuckart went there willingly, but he could not obtain a definite result, in spite of all his long continued exertions. K. Th. v. Siebold, who went to Seebach a few months later, by invitation of Baron Berlepsch, and resumed Leuckart's researches, was more successful. He worked in vain for three days and declared that nothing could be discovered by means of the microscope. He was to return next morning, and the carriage was already before the door when he appeared before the baron and asked permission to remain one day longer. He stated that he had been unable to sleep on account of his want of success, and that a new method had occurred to him, which he desired to try.‡ This method succeeded perfectly, and v. Siebold very frequently saw seed-filaments (thirty-one times in fifty-two, and in two of these cases mobile) in the interior of the bee-eggs. But these spermatozoa were found exclusively in female eggs, and were entirely wanting in the male.* We therefore owe to Siebold's wonderful observations and laborious experiments the definitive establishment of Dzierzon's theory that the drone-eggs are developed parthenogenetically without impregnation by the male seed. This fact, abundantly confirmed by many accurate and oft-repeated investigations, and also by Leuckart's valuable work,† must now be received as scientifically established.

When parthenogenetical reproduction was thus undoubtedly proved in bees, the above-mentioned more ancient statements were carefully re-examined. In the *Solenobia triquetrella* and the *Solenobia lichenella* belonging to the moth family, it was found that the females (which were brought up from the caterpillar stage in a closed box) laid numerous eggs soon after leaving the pupæ, and that these eggs produced small caterpillars. V. Siebold dissected such moths before and after they laid their eggs, and found their ovaries constituted exactly like those of other female butterflies, but not a trace of male spermatozoa could be discovered.‡ The eggs could not therefore be impregnated, and must undergo spontaneous development.

Of the remarkable apterous butterfly, *Psyche helix, Siebold*, whose caterpillar makes a spiral bag, no one has yet been able to find the male, although it has been sought for over fifteen years. And yet these females annually lay their eggs in the pupa envelope, which remains behind in the caterpillar bag, and in the fall these produce the caterpillars. On dissection, true eggs with micropyle, a seed-vessel, but always without male spermatozoa, and a copulating pouch are found. These peculiarities preclude the opinion that the psyche female is only a nurse.

V. Siebold and Schmid furthermore succeeded repeatedly in obtaining caterpillars from the eggs of a virgin silkworm, and from those of the *Smerinthus*, which became pupæ and emerged as perfect male and female insects.

A. Barthelemy§ also confirms the existence of parthenogenesis in *Bombyx mori*, and furnishes various proofs. He also observed the laying of unimpregnated eggs by other butterflies, which are hatched if they belong to the first generation of the year, but never survive the winter.

Jourdan‖ also observed true parthenogenesis in the silk-worm.

At the forty-seventh meeting of Swiss naturalists at Samaden, de Filippi reported that healthy caterpillars were hatched from the eggs of the Japanese silk-butterfly, although they had certainly not been fecundated, and mentioned a similar observation of Curtis on the *Bombyx atlas*.

In certain species of coccides Leuckart (p. 36) also found parthenogenetical generation. In the *Lecanium* and *Aspidiotus*, for instance, the eggs are developed in tubes without being previously impregnated, and the spermatozoa are entirely wanting. In the genus *Chermes* (*Ch. abietis, Kaltenb., Ch. laricis, Harling, Ch. piceæ, Ratzb., Phylloxera coccinea, Heyden*) of the plant-lice, having, according to Leuckart,[*] both a winter and a winged summer generation, which latter was erroneously taken for males by Ratzeburg, reproduction proceeds by means of eggs without previous impregnation. Leuckart examined two hundred animals, and never found males but always females, and they virgins. Males do not seem to exist, or if they do, parthenogenical reproduction seems to be the rule. Less accurate observations of the same kind were made by Dr. Ormerod[†] on the *Vespa britannica*, and by Stone[‡] on the *Vespa vulgaris*.

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* Zeitschrift fur wissenschaftliche, Zoologie, vi, 272.

† Archiv. fur Anatomie u. Physiologie, 1855, p. 90.

‡ Bienenzeitung, 1863, p. 222.

* True Parthenogenesis, etc., p. 111.

† Zur Kenntniss des Generations wechselsund der Parthenogenese, etc., Frankfort, 1858, p. 51.

‡ Also Leuckart, *idem*, p. 45.

§ Etudes et considerations Generales sur la Parthenogenese, (Annales des Sciences Naturales, XII, p. 307.)

‖ Compt. Rend., 1861, tome 53, p. 1093.

Leuckart (pp. 105–107) has furthermore established the fact that in all other sociable *Hymenoptera*, as the bumble-bee, the wasp, and the ant, as well as in the bee, parthenogenesis prevails. Egg-laying workers, which are exceptional with bees, are the rule with these animals. Future researches must decide whether their progeny is always male, as Huber's[§] observations of bumble-bees seem to indicate. No doubt we will also find parthenogenesis with many other insects, such as the termites and the gall-fly. In the gall-fly, a species of *cynips*, no male has yet been discovered, but only females.

The experiments of Lievin and Zeuker, which demonstrated the spontaneous development of the daphides, have been confirmed by J. Lubbock. Millions of the females of these animals, which are scarcely a line long, may be seen in summer moving about in cisterns and other standing sweet waters. They multiply in rapidly succeeding generations by means of unimpregnated or summer eggs in a cavity between the shell and the back of the animal, where they develop into individuals exactly resembling the mother, and multiplying parthenogenetically on separating from her. In the fall males are born, which cohabit with the females and produce one or two darkly-colored winter-eggs, which are surrounded by a second firm envelope called the ephippium, to protect them during their hibernation.

Although there can be no longer any doubt about the correctness of these facts, which have been established by the repeated, careful and accurate observations of our most distinguished zoölogists, and although the existence of parthenogenesis among a number of articulate animals is proved beyond dispute, attempts are not wanting to render them suspicious, and represent them as unreliable. Every truth differing from long cherished opinions is received slowly and with difficulty.

Tigri proposed, in a paper to the Paris Academy of Sciences,[‖] to explain the parthenogenesis of the *Bombyx mori* by the supposition that there is a double cocoon containing two individuals, a male and a female, which might have copulated before leaving their shell. This supposition would presuppose the most extraordinary carelessness on the part of the above-mentioned observers. It amounts to charging them with not being able to distinguish a double from a single cocoon, or with neglecting to examine the organs of generation and determine the sex of the individuals. Errors of so crude a nature would hardly be committed by men but little acquainted with methods of research, much less by naturalists of high standing.

Schaum[*] states that he cannot receive the theory of the parthenogenesis of insects, and thinks he can explain it away by an hypothesis of Pringsheim. According to this the queen-bee, and the workers which lay eggs, might be androgynous, and possess male organs of generation besides their ovaries. In all cases where the skilful anatomists, v. Siebold and Leuckart, dissected such bees, there were no traces of testicles, so that the above supposition remains without foundation.

The existence of hermaphrodite bees, which were observed by v. Siebold in the apiaries of Mr. Engster, of Constanz, Bavaria,[†] cannot be brought forward as a proof against parthenogenesis, but rather seems to confirm it. It was observed that the pure worker-bees drove the hermaphrodites out of the hive the moment they left their eggs, and did not even suffer them to remain on the board outside. The hermaphrodites perished in a short time, and could never have reached the egg-laying stage, even if eggs had afterward formed in their originally empty ovaries. According to Pringsheim, every queen would have to be an hermaphrodite; but in the lance-winged and drone-producing queens, which were repeatedly examined by the above observers, no trace of androgynism or of spermatozoa could be found.

Dybocosky also appeared against parthenogenesis in his inaugural dissertation, "de parthenogenesi;" but his objections are unfounded, and evince neither thorough investigation nor satisfactory knowledge of the subject. The same is the case with various other objections brought forward by the opponents of parthenogenesis. None of them will stand test.

The reliability of the theory is established beyond doubt by many well-proved facts, and we may rejoice that we have thus gained a new and highly important law for the explanation of the most wonderful phenomena in the animal kingdom.

Novice.

Mr. Editor:—We are glad to see the familiar face of our old Bee Journal once more, changed in no way, except to improve it.

Thanks for your kind notice of "*Gleanings*."

The article entitled "The December Journal," it seems to us, Mr. Burch should have headed "On Novice." Our article in the same number answers most of his charges, and those who care to examine our writings here for the past year, beside those of Mr. B., in the *Bee Keepers' Journal*, can see whether there is not more repetition of our *ideas* (not language) than could be accidental. What few ideas we originate we prefer should be credited to "Novice," or the American Bee Journal, at least.

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[*] Troschel's Archives, vol. 25, p. 208. *Schizoneura* seems to have only an oviparous fall generation.

[†] Zoologist, 1859; and Entomol. Annual for 1860, p. 87.

[‡] Proceedings Entomological Society, 1859, p. 86. Smith in Entomol. Annual for 1861, p. 39.

[§] Transactions of Linn. Society, 1802, vol. 6, p. 288.

[‖] Compt. Rend., lv, 1862, p. 106.

[*] Berliner Entom. Zeitschrift, viii, p. 93.

[†] C. Th. v. Siebold on Androgynous Bees, Zeitschrift fur wissenschaftliche Zoologie, vol. xiv, No. 1, and in the Eichstadter Bienenzeitung, year xix, p. 223.

Mr. B's strong assertions are certainly very thoughtless on many points; the one in particular where he claims to have given a description of the simple hive we have advised, "to the world *a year before we gave it*," was certainly unwise. If he will mention where he gave such description, perhaps some one who has seen or understands the peculiarities of the hive we recommend will show him his mistake.

As to our puffing Mr. Langstroth's hive, we shall be surprised indeed if any one, from Mr. King down, at the present time, ever thinks of paying him anything, even a well-deserved compliment. We have never bought, nor sold, nor in any way aided, that we know of, the sale of a single right for his hive; but we did for the American, long ago. Langstroth's invention of movable combs, it does really seem, should have entitled him to some compensation, for, to our knowledge, he labored long and earnestly bringing out the result he has given us. Most of you know the result; the extreme difficulty of preventing "Young America" from making something so simple, and something, too, that all could demonstrate with saw, hammer and nails, was too great a temptation, and the invention was adopted and approved of many times, without even a "thankee, Mr. Langstroth," for we are a busy people, and don't always stop to enquire, when a thing suits us. If Mr. L., or a proper representative, had come along, or should even now, at this late day, and presented the matter properly, we think "our people" would have done all that is fair, and will even now. It is true that Mr. L. advertised his patent and told the people how they could show their regard for his services, but we believe, as a general rule, *people are rather slow in writing letters with money in them, for something they have got already, and when there seems no probability of anyone disputing possession.*

Page 175. Mr. Gallup, we perfectly agree with you in regard to tall hives, and perhaps may also in regard to the "New Idea," when Adair takes the "patent" off from it. He (Adair) says a division board is a positive damage, and, besides, is somebody's "patent," (Oh, dear!) too.

Do you believe division boards are useless, too, Mr. G.?

Page 176. Mr. Davis' idea of earth filling for bee houses we think very favorably of, but should it not be dry dust, rather?

Many thanks, Mr. Davis, for the suggestion.

Page 178. Not the "Improvement Suggested," for we think it should be carefully "skipped," and so advise every candid and serious bee-keeper to avoid reading it; but we mean about "Wintering Bees." A number of practical experiments convinced us that "double walls" were of no advantage, but we may have been mistaken. Mr. Doolittle's plan of shovelling snow around hives out on their stands would be cheap and excellent where snow was plenty, but it is seldom the case here. "Double walls" have been proposed and tried for years, but we know of none who have continued to use them long. Wintering in-doors we think is conceded to be much the least trouble.

We agree with Mr. McGaw and Mr. Fortune that it does seem too bad that so much money and time has been spent in houses and traps for "artificial fertilization," and the result only so many total failures. It's really enough to make a body cross and "sassy," like "brother Furman."

By the way, we really think Mr. Furman was careless and did not mean to misstate in the matter of Grimm and Furman. If all of our bee friends could be as prompt and careful in their dealings as Mr. Grimm has been, so far as our experience goes, we should be much pleased indeed.

The plan of sending money and then having to wait weeks, or months, and sometimes years even, for queens or hives, or whatever it may be, is abominable. If the goods can't be sent, *say so*, or send the money back. That is the way in other lines of business.

We heartily agree with Miss Ella in regard to Averill chemical paint. We know of few things that we ever enjoyed more than painting "dollar" hives under the grape vines before breakfast. No skill is required, as the paint runs smooth like varnish, and dries so quickly that it does not inconvenience the bees, and makes a smooth, glossy coat. To be sure we got some of it on our shirt sleeves; we always do; but any "lady" would, of course, have sense enough not to do that, if we of the sterner sex haven't.

Our bees, at this date, Feb. 8th, are all right, even some colonies containing none but "old bees," as an experiment, and we think the idea that seems to be gaining ground, that old bees caused the dysentery, a mistake. We often winter queenless colonies without trouble, and so have others. We have lost two very weak nucleus colonies with less than a pint of bees, but they died because our room was cold, we presume, or at least too cold for those so weak in numbers, viz: about 35 degrees, some of the time. We must confess to not being partial to *very weak* colonies.

If Mr. W. E. Freeman, page 187, reads the back numbers carefully, we think he will be satisfied that box hives suffered full as much with the dysentery as those on which the extractor was used. The question has been many times proposed and as often dropped.

And now, friends, all, if you please, for this time, we will be NOVICE.

[For the American Bee Journal.]

Sundries.

Whilst the proceedings of the American Bee Keepers' Society furnish very pleasant reading as you go along, still at the end you are only conscious of a jumble of heterogeneous and often discordant matter, utterly bewildering to the novice. An experienced apiarian may know how to sift and sort it—will understand what weight to give to this man's evidence, or that lady's conjectures, but the poor novice can only ask with Pilate, "What is truth?" and turn wearily from what is virtually to him a Barmecide feast.

Now, Mr. Editor, it should be made the duty of some one (and who is better fitted than yourself?) to take this tangled skein and untie and sort it and spread it out for the pleasure and profit of the readers of the AMERICAN BEE JOURNAL. Surely our profession has made sufficient progress to be dignified with the title of a science, and as surely we must make decided advances from year to year, but how much more satisfactory would it be if some competent hand would from time to time announce with no uncertain report the substantial results of each year's study and experience. For example, whilst there are many good ways of transferring bees, certainly there must be some *best* way, and so of introducing queens, feeding, wintering, &c., &c. There ought to be some one courageous enough to say which (weighing all the circumstances) is the best plan of hive, size of frames, boxes, &c., &c., but as this is very delicate ground to tread on, perhaps we must leave each bee-keeper to work out his own painful and expensive experience. In all other matters, however, I can see no objection to a fair and honest statement of the advance in the art apiarian. I would again make the suggestion that a monthly "Hint" might be given as to what should be done in the way of feeding, overhauling hives, &c. The difference in latitude of your various subscribers is not so great but that some time during a month your suggestions would apply. Further, I would reinforce the various admonitions of the February number, that we should strive to crush out that querulous tone which too frequently mars the communications to the JOURNAL. *Point* is a good thing, but the sting which is *left behind*, like that of our pets, is more injurious to the giver than the receiver, but bad for both. Let us turn over a new leaf in this regard, and determine that henceforth we will ask and give advice in all simplicity and kindness.

Finally, I wish you God speed in your good work. You have a noble exemplar in your predecessor. I believe that he was pure, honest, upright, outright, and downright. He had his deep convictions and was not afraid to give them utterance. He gave praise when he thought it was due—if he detected imposture, he "flashed it up as a policeman's lantern flashes up a rogue," but he was always honest, frequently "to his own hurt." I trust that his dream may be your reality, and that under your guidance the JOURNAL may find its way to every household that can appreciate rural pleasures, teaching them more and more to value and cherish

"The breath of their gardens,
The hum of their bees."

Gordonsville, Virginia. B. JOHNSON BARBOUR.

NOTE BY ED. A. B. J.—Our esteemed correspondent summons us in the foregoing letter to a well nigh impossible task—that of deciding, amidst conflicting theories and methods, which is absolutely best. We are not gifted with infallibility, and if we were to claim the possession of such a gift, a host of readers would "compass us about like bees," to dispute our exercise of it. We are quite free to admit that the diversities of opinion among bee-keepers on various points must be somewhat "bewildering to a novice," but the only way of relief we know of is that pointed out in Holy Writ, "Prove all things, hold fast that which is good." There is no royal road to bee-keeping. Every bee-keeper must test for himself the various methods proposed, and choose those he finds most satisfactory. Apiarians of equal eminence differ in their modes of transferring, introducing queens, feeding, wintering, &c., but one thing is quite certain, and that is, the "novice" will not go far astray if he copies any one of them. The same in effect, is true of hives. We cannot undertake to decide which of all the numerous hives is best, but bee-keeping can be carried on successfully with any movable-frame hive. They are all good. Doubtless there are good, better, best, but who is to put on the labels, indicating their comparative merits? The only plan is for each to follow his own preference.

In regard to monthly hints, the difficulty is precisely that which our correspondent supposes does not exist. "The difference in latitude of" our "various subscribers" is "so great," that what would suit one locality would be utterly inapplicable in another. We have subscribers in Minnesota and Canada to the north, and in California and Florida to the south;—in the one latitude bees are freezing to death, and in the other

"Gathering honey all the day,
From every opening flower,"

during the same month. Two sets of hints, northern and southern, might possibly be given, but even these would vary considerably in their application.

We thank our correspondent for his kind concluding words, and in return, wish him great pleasure and success in his apicultural undertakings.

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[For the American Bee Journal.]

The late Richard Colvin.

I was surprised to see no notice of the death of Richard Colvin, of Baltimore, in either the January or February numbers of AMERICAN BEE JOURNAL, and could only account for it by supposing that Mr. Langstroth's health was too bad to permit his writing, and that Mr. Geo. S. Wagner had not been informed of the death of his father's old friend.

Although Mr. Colvin has, of late years, been very little known to the bee-keepers of the country, their obligations to him are very great. He was one of the first men of means who took hold of the movable comb system, and gave his time and money freely to introduce it into general use, less from any hope of pecuniary reward, than from a desire to aid the cause of bee-culture, in which he took so deep an interest; but I will say no more on this subject, as I am sure Mr. Langstroth, who is so much better able to do it justice, will treat it fully so soon as his health will permit. Mr, Colvin was among the first importers of the Italian bee. If I am not mistaken, he was the very first person who attempted to import them, but they died on the voyage, and some one else received a queen in good order before his second hive arrived.

There are several articles from Mr. Colvin's pen in the first volume of the AMERICAN BEE JOURNAL, and a very valuable paper by him on bee culture, in one of the reports of the department of agriculture, which show his thorough familiarity with the subject, and make us regret that he was not a frequent correspondent of the JOURNAL. His pleasant manner and great kindness of heart endeared him to all who had the good fortune to know him, and his early death, for he was a man in the prime of life, leaves a vacancy in the list of apiarians which cannot easily be filled.

DANIEL M. WORTHNGTON.

St. Denis, Md., Feb. 12, 1873.

NOTE BY ED. A. B. J.—We feel obliged to Mr. Worthington for calling attention to the late Mr. Colvins' worth and usefulness. The circumstances of great affliction and sore bereavement in which Mr. Langstroth has recently been placed, and which are explained more fully elsewhere in this number, sufficiently account for the absence of any obituary notice from him.

[For the American Bee Journal.]

Dysentery Among Bees.

The primary cause of dysentery lies in the food upon which the bee subsists, while there are other tributary causes, such as atmospheric temperature, too long confinement in the hive, sudden transition from cold to hot while in confinement, etc.

When the food, honey or syrup, is free from an overcharge of acid, of a refined character, free from gross particles, and of proper consistency, bees are seldom affected with dysentery. During long drouths, bees gather a large proportion of acid with their honey, for the reason that the flow of the sacharine matter is so scant and slow that it partakes largely of the impurities and acid of the vegetable, and will produce mortality in a very short time, when the bees are confined to the hive. Very thin honey is also unfit for winter food. The fluid and alimentary proportions being unequal, the fluid cannot be thrown off sufficiently fast through the pores and in respiration, but accumulates and distends the bowels, and when long confinement in the hive ensues, dysentery follows.

The instinct of the bee never errs in the preparation of its food, when all things are equal, bees in numbers, and the internal temperature of the hive proper. The alimentary and fluid proportions of honey are always equal, and when free from acid produced by long drouths, gathered when seasonable, and the flow of honey is free and easy, bees will live upon it in confinement (the repository being kept at a proper temperature) for six months.

Although bees get no older with the lapse of time while hibernating, still bees that have lived out one-half or two-thirds of their lifetime before going into winter quarters are more easily affected than young bees.

Mr. Quinby suggests that the primary cause of the great loss of bees in the middle and northern states, during the winter and spring of 1872, was attributable to the cold north-west winds that blew for months without cessation. But we are strongly inclined to the opinion that the primary cause was in the food, and the long continued cold only a secondary cause. During the winter of 1855-6 bees were not permitted to fly out of their hives for near three months, in Illinois; the ground was covered with a deep snow, and the mercury ranging from zero to 26° below during the night hours, and the cold north-west winds almost constantly sweeping over our vast prairies, yet it did not affect the bees with dysentery, and, so far as I know at this time, they all wintered on their summer stands, repositories being little used at that time.

Mr. Q. calls our attention to Giles B. Avery's repository of bees in Albany county, which had safely wintered for years, but all died during the winter of 1872, except fourteen swarms, and the mercury stood quite evenly at 36°. Now when we contrast the temperature of Mr. Avery's repository with the temperature of the winter of 1855-6 in Illinois, we feel more than ever confident that the food is the basis of the health of the bee. My bees were also affected with dysentery during the winter of 1872, and twenty-five swarms were entirely lost. In the month of May, when I commenced multiplying swarms, I made a number of swarms by brushing the bees from the frames and giving them cards of honey from the hives left by the bees that died with the dysentery, and closed them up in a dark room, from two to three days, and when liberated they were badly affected with the dysentery, leaving their excrement at the mouth of the hive. The old bees were most affected and *vice versa.* I substituted a different quality of honey, but not better in appearance, and other swarms came out of the dark room all right.

Dr. Jewell Davis asks the question in the *North American Bee Journal*, why it is all colonies are not alike affected that forage upon the same pasturage during a heavy drouth, if that affects the honey with acid and destroys the bee? I suppose the Doctor only wanted this question answered supposing it would accommodate some new beginner. I might ask the Doctor why all swarms do not fare alike in the same warm repository, when the difference in them when the deposit was made was imperceptible. The simple fact lies here: the internal condition of the hives or swarms at the time the acid honey gathering commences. The one surviving was well stored with good honey at the time, but the other had its combs empty, or so nearly so, that it had room enough to store away acid honey, evaporated cider, and grape juice, to make its once happy home a melancholy abode, where affliction and death reign.

Mr. Alley, of Wenham, Mass., more than suggests, if my memory serves me right, that the cause of the great mortality among the bees was produced by the honey-dew gathered in the fall season. But, honey-dew being the saccharine part of the fluid or sap of vegetation, and, when abundant, exhales through the countless pores of the leaf, condensing in drops as it comes in contact with the atmosphere, I suppose no one ever saw honey-dew in the fall of the year in our latitude, not even aphis honey-dew, it being nothing more or less than an extra amount of honey from the tendrils and leaves of vegetation taken into the stomach, that cannot be absorbed by the insect, and is thrown off in excrement, changed little from honey.

Camargo, Ill., Nov. 15, 1872. A. SALISBURY.

[For the American Bee Journal.]

The November Journal.

MR. EDITOR:—The November JOURNAL came to hand unusually early—October 30, while its usual time is between the 10th and 14th of each month. Like its predecessors, it is fraught with most valuable information on bee culture.

Carl Gatter gives us a valuable treatise on honey as a medicine. I, being somewhat of a philosophical or lay doctor, fully endorse his views.

Next comes the Michigan State Bee-Keepers' Association. If other associations would give full and valuable reports like this one, we, the "Bee School" boys, would open our throats wide to swallow them. The mortality of bees last winter seemed to be the burden of their discussion. My own experience convinces me that Quinby is right, as to long protracted cold being the cause of the disease. I have so little, if any, of the disease—dysentery, as it is called—among my bees, as to be ignorant of it, except through the bee journals. The winters here are so mild that my bees are scarcely ever confined over three weeks at a time in midwinter, without a few warm days at intervals, in which they can fly out. Last winter I believe they were confined at least nine weeks without a warm day to fly out, and yet came out all right in the spring, though very few in number, owing to the fact that the queens ceased laying very early in the fall, and consequently there were very few young bees when the winter set in. They came out in the spring better than I could have expected in such a case. One stand, that had filled three large caps, 24 lbs. each, without bottoms, and from which I had not extracted any, went up. The bees in this stand were very full in November, and appeared so about the first of January, but I had not opened them until about February 20, and, to my surprise, there was the queen with only a tea-cupful of bees. Every comb was filled, from top to bottom, with honey, except the three middle ones, and they were also three-fourths full, showing that the queen had been crowded out of her brood-nest until winter set in, and consequently they were nearly all old bees, and wintering between two walls of ice could do no better than they did. I trust that even a novice can see this case was not dysentery. It was my own fault in not extracting half their honey in the summer or fall. This was the only stand I neglected, and it illustrates how the old fogies keep bees, leaving every stand to take care of itself, as I did. I would here state I saved all the honey from the stand referred to, and the queen, by giving her to a queenless colony, and she proved one of the most prolific queens I had during the past season. Some would have said that from her being in a hive full of honey and so few bees to keep her warm, she was of course of no further account, her prolificness was played out. But the contrary proved the case.

Friend Gallup, as might be expected from his great knowledge of the wants and habits of the bee, is always in the front ranks of improvements. True, the *hive* has become a knotty question; but the *perfect hive* is not yet invented. Who will invent it? From all the knowledge we have now attained to in bee culture, it would seem to me, as the most important thing, to first choose a frame of the size, shape and make to suit any sized hive, from a three framed nucleus to a 36 or 40 frame hive, so constructed, by means of a partition board, as to contract and enlarge the brood nest, according to the weather and the size and strength of the colony. I have tried different hives, and consequently different sizes of frames, until I am tired of it. I am now fast getting all my hives so constructed as to receive one size of frame. I find this a great convenience—a saving of time and trouble, such as the experienced alone can understand. But you will ask, what size of frame have you chosen? Well, for the present, I have chosen the common Langstroth, as has also "Novice." I like the new frame with metallic corners, invented by Novice, the best of all frames I ever saw, and intend to use them alone hereafter. So far as cap honey is concerned, Langstroth is right in the size of his frame. But as honey caps are becoming a thing of the past with me, I would prefer a frame one inch deeper and two shorter for the *extractor*.

I would like to write much more, but must remember friend Nesbit's warning, "bee short."

R. M. ARGO.

Lowell, Ky., Nov. 9, 1872.

North-Eastern Bee-Keepers' Association.

The third annual meeting of the North-Eastern Bee Keepers' Association was held at the Butterfield House, Utica, N. Y., Feb. 5th and 6th, 1873.

The association was called to order by President Quinby.

The roll having been called, the secretary read the report of the last meeting, which was adopted. The treasurer's report was presented and approved. The retiring president then read his annual address, which we present entire.

PRESIDENT QUINBY'S ADDRESS.

Two years ago, it was stated in the North American Convention of bee-keepers, at Cleveland, Ohio, that Mr. Quinby had accumulated a fortune by keeping bees. This was promptly denied, as far as dollars and cents were concerned. The term fortune is very indefinite as to amount of money constituting one. Some persons would have it with one hundredth part as much as others. And then again a fortune may consist in the accumulation of knowledge, wherewith the dollars may be gained in the future. In yet another view a fortune may be considered in the light of treasures laid up in heaven; in the satisfaction of having done something for the benefit of man, a perpetual reward. I hope I may have done or shall do something that way. The fact that a fortune was not secured pecuniarily, by me, is, I think, owing to distribution as fast as accumulated. Whenever a fact was obtained that would benefit others as well as myself, it was forthwith given to all who would receive it. Those who did take it, did it very often so reluctantly that one would suppose they expected something would be given for listening to it.

Fifty years ago, when a boy, I heard a neighbor that kept bees talking to my father on the subject; who made this remark, "I believe that I could make an independent fortune out of bees." Here I got a lasting impression. Without waiting to understand "how to do it," I solicited my father to obtain a hive of bees. It was put off indefinitely. Another neighbor, near us, had kept bees several years. I watched him with much interest. The simple box and gum were all he used. and his profit consisted in killing his bees and taking their honey to sell; and one season he realized the enormous sum of one hundred dollars. A few years later I had accumulated funds enough to purchase a stock of his bees to begin business on my own account; hoping to realize the fortune that I had dreamed about.

Yes, I was rich already; I was owner of a hive of bees. Yet it soon seemed like slow progress and bad economy to kill the bees for profit. Besides, it did not create the best feelings. It was suggested that by putting boxes on the top of the hive, with holes to communicate, the bees would fill them with honey, and retire to the hive below for the winter, leaving the contents of the box for their owner. Here was another chance for that fortune, an important point gained. It was no longer necessary to kill the goose that laid the golden egg, but she could be kept alive to lay the egg another year. Ninety-nine times in a hundred, the bees would provide for their winter stores before doing anything in the boxes. We had demonstrated the fact that they would store a surplus over their wants. I immediately endeavored to persuade neighbors to save their bees and make double profits, particularly my old neighbor, whom I found very conservative. He had made money by keeping bees in the old way, and would not venture a change recommended by some one else, with the slim prospect of doing better. He even entertained the idea, and fully expressed it, that there was no better way than that practiced by his experienced self. Seemed rather annoyed—like some in the present day—that any one should try to do better; even predicted, that I would "potter" till I should fail entirely. I am not going to say that he would have preferred my failure, rather than that of his prediction.

Box honey, in market, began to take the place of that from the hives, and one pound of it sold for more than two of the other. We also found that boxes made of glass, in a fanciful style, commanded a still more ready sale. This fact I had nearly all to myself, and had I been as shrewd a money-getter as Astor, Stewart, or Vanderbilt, I might at least have secured a moderate fortune pecuniarily. Instead of which, having an eye to treasures of a less perishable nature, I wrote a book of instructions, which I hope has been of some use.

This was called a mistake, by some of my best friends. The middle men who distributed to consumers, called me a fool for doing so. "Don't you see that competition will reduce the price, and you will not get remuneration for what you have done?" Let these facts serve as an explanation, why one person has not become rich by keeping bees; but let it not discourage improvement.

Another class of bee-keepers have stopped at this point, forgetting where they got the first idea, having had it so long, it seemed to have originated with them, and not conceiving any further improvement possible, did not want any. "Had we not already caused two blades of grass to grow in place of one—two pounds of honey in place of one—and saved the bees. What more was there to be had?"

The bees had now betrayed what their instincts might lead them to, in the success of our first experiment.

The inside of a bee-hive had hitherto been considered a dark place, dangerous to explore. Mr. Langstroth gave us a view of the interior in a blaze of light. With this help, we could go still deeper in the study of their nature, and guide their instincts to still greater profit. It stimulated further experiment, and the introduction of the extractor demonstrated at once that we could do better still. We found by giving the bees combs ready to be filled, instead of putting them to the trouble of making them, and when filled, by emptying and returning again to the bees, they would sometimes be refilled successively several times in a season. With every step in improvement has come a host of patent venders, that seemed regardless of any improvement in bee culture, and anxious only to filch the dollar from the credulous. And following these, have arisen scores of disappointed, discouraged, disgusted bee-keepers; disgusted with the whole subject. This class we are unable to approach with any chance of success. We cannot blame them. They are not acquainted with our motives. They cannot understand how we, like the bee, can be "willing to work for nothing and find ourselves," and work not for individual good, but that of the whole community. When extremes are avoided, conservatism is commendable. I mention these things, not to discourage, but to show that there is yet much to hope for. Opposition to improvement has attended every step. Rejecting proffered blessings is no new thing. People did it 1,800 years ago. Being rejected does not disprove the truth of anything. The progress of the past, we trust, will be accelerated. There are many points in the natural history of the bee not yet understood; many theories to be verified by experiment. And let us remember that a failure often carries with it the most important lesson, by stimulating inquiry into causes of such failure.

The calamity that overtook our bees one year since, in all the northern states, was the severest of any in the past forty years. Some cause, or causes, must have operated to produce it with which we were not acquainted. We wish to investigate, to examine the different theories that have been offered. Where facts are given that render any one probable, it is then a duty to verify by experiment. I have offered a theory, and am experimenting to test it. I am not so anxious to prove that I am correct as to ascertain what is absolutely certain. I hope the committee to propose questions for discussion will remember this one. All of us have discovered that some few of our bees, in spring, are in much better condition than the others, and give us twice as much profit. We would like to understand how to make all as good as the best. When we have attained this result uniformly, we have taken another step in advance.

A progressive bee-keeper in Ohio writes me: "I think you will agree with me, that the time will come when we shall make bee-keeping profitable in the poorest seasons." Doubts of its ever being so does not decide it, but discourages efforts towards its accomplishment. Simple belief that it may be so stimulates to exertion in that direction. Let a thousand enthusiastic bee-keepers start the inquiry, "How to do it?" and perhaps move in as many different directions, who can doubt that something will be discovered. If we are unable to see it, are we justified in continuing the effort? We must not suppose that we have examined all the evidence that has been presented to the thousand different minds, and judge as if it had all been examined by the small ray of light presented to our own.

Only a few years ago a friend out west, who had been to hear Mr. Morse lecture, wrote: "Who knows but we may be talking to you in a few years by lightning?" This, and more, has been accomplished. We can even hold converse with Victoria on her throne! Our diminutive intellect did not comprehend it, and would not, if we had endeavored to penetrate the future, at the time of Franklin's first guiding the electric fluid from the clouds. We cannot, even now, divine the manifold treasures which the future will yet unfold, aided by this agent. Here, again, we see that improvement does not stop with the first success. We have already started, with this principle in one direction, that promises much. Each colony of bees require, on an average, thirty pounds of honey to take them through the next season's honey harvest. When they have stored this, and no surplus, we propose taking it all with the extractor, and feeding the bees on coarser fare; something worth in market, one-half, one-quarter, or one-tenth as much as honey. The step already taken, is quite satisfactory. We want to ascertain the cheapest material possible, consistent with the health and well-being of the bee.

We know, that in some seasons, there will be times when the flowers will secrete honey in abundance, at other times very little, or none at all. It would be interesting to understand the conditions that produce it. Whether the elements are in the earth or atmosphere. Who knows but that some day we may control this, as the farmer increases his crops by the use of proper fertilizers. Let us inquire.

The farmer has inquired, if the flowers of clover and kindred grasses, when robbed of their sweets, are of the same value for dairying purposes? If the blossoms of the orchard will yield the same fruit when robbed of their sweet secretions? If the vineyard with its ripened fruit, is of the same value as without the bees? These questions should be carefully, fairly and honestly examined. We should also inquire if the farmer is aided by the agency of the bee in any of his crops?

I would suggest that, like some other institutions, we deposit some of our questions in a box, to be drawn out at random, and answered as best we can. I think we have no selfish, undivided interest among us to prevent our answering candidly and for the interest of all. Not one is bound to twist replies to suit any one's particular views, theory, or patent hive. Nothing like discussion for arriving at the truth. I proposed to the North American Bee-keepers' Society three questions:

1st. What caused the loss of bees last winter?

2d. Is it possible to improve the nature of the bee by judicious handling?

3d. Does the patent hive promote bee culture?

The first two were discussed, the third forgotten. A great many conflicting interests would come in, to discuss it there. Nothing here to fear from it. In relating an anecdote, I do not wish to insinuate that the subject was forgotten, but say I was only reminded of it. The groom, in recommending a horse to a purchaser, said he had three faults. What were they? 1st. The horse being white, shed some white hairs on his rider's new clothes, which looked badly. 2d. He plunged his nose in the water, on going to drink, so as to spatter water all over the new bridle. The third he could not think of, but it was bad, very bad. The bargain closed, the purchaser endeavored to lead him into the stable, when he nearly knocked his brains out against the door-post. Here, you rascal, this horse is as blind as a bat. Why did you not tell me? Oh! that is the fault I couldn't think of.

A unanimous vote of thanks was tendered the president for his able address.

ELECTION OF OFFICERS.

An opportunity to join the association being offered, a goodly number of new names was enrolled, after which occurred the election of officers for the ensuing year. The following were elected:

President, M. Quinby, St. Johnsville; Vice-President, R. Bacon, Verona; Secretary, J. H. Nellis, Canajoharie; Treasurer, J. E. Hetherington, Cherry Valley.

PLASTER OF PARIS HIVES.

After some unimportant discussion, Captain Hetherington was called on to give the result of his experiments with plaster of Paris as a material for the construction of bee-hives.

In reply that gentleman said that it had been claimed that the use of this material would cheapen the cost of hives. He did not consider this as important as other features. *First*, plaster of Paris being universally recognized as a non-conductor of heat, it would materially assist the swarm in maintaining an even temperature. *Second*, being made porous by increasing the proportion of water when cast, it was found to be an excellent conductor of moisture, and this would carry off the interior dampness of the hive. Both these were important features in an improved hive, and both qualities were essential in hives used for wintering purposes.

Captain Hetherington has experimented extensively during the winter, and the detailed account which he gave of his experiments was listened to with close attention and deep interest. He did not recommend the adoption of plaster of Paris on account of economy alone, but advised experiment with a view to adoption for wintering purposes.

The association adjourned until 7 o'clock in the evening.

EVENING SESSION.

The association being called to order, the minutes of the afternoon session were read and approved.

The association was addressed by Mr. Alexander. After listening to Mr. Quinby's address he had meditated on the fortune to which the president alluded. He thought the president's experience proved the truth of the promise: "Cast thy bread upon the waters and it shall return to thee after many days." The attendance at the association demonstrated the growing interest. As the production of honey increased, the demand for it was found to increase proportionately. Success in any pursuit is measured by the magnitude of resulting good, and the pioneers of apiarian science have ample reason to feel satisfied with the result of their labors.

A LETTER.

A letter was read from Rev. W. F. Clarke, President of the North-American Bee-Keepers' Society, stating his inability to attend, and the same was put on file.

MOVABLE FRAMES.

The association took up the question, "Does this association think it advisable for farmers to adopt the movable frame hive.

Mr. Alexander, while not advocating the use of box hives thought some persons succeeded best with that hive, for the reason that they did not take care of their bees, no matter what hives they used.

Mr. Root said one reason why some bee-keepers succeeded best with box hives was because the hives were better shaped for the good of the bees than some of the patent frame hives in use. A hive should be nearly square. Many frame hives are too flat, and, as a result, bees winter poorly in them. The advantages of the frame hive are too many to mention. The following are a few points of superiority: The honey emptying machine can be used, whereby the yield of honey can be greatly increased. Again, stocks can be equalized in the fall, benefiting both the strong and the weak. Stocks sometimes have so much honey stored in their combs that they cannot cluster close enough to keep warm in winter. If frame hives are used, this honey can be removed. These are but a few of the advantages claimed.

Mr. Herrington, of Ohio, said that the moth worm could not be easily removed from box hives, and that the queen bee could never be seen or the bees handled. If combs became mouldy or mice got in the hive, there was no convenient remedy.

Capt. Hetherington said that where bees were never attended to, he would as soon advise the use of box hives as of frame hives. The man who neglects his bees cannot expect to make bee-keeping pay with either. He thought frame hives offered better advantages for acquiring a knowledge of this fertile science, and he certainly gave the preference to frame hives. The bulk of testimony stands preëminently in their favor.

DRONE COMB.

The next question discussed was the best time for removing drone comb from hives.

Mr. Root said it should be done when honey is being gathered, and the opening should be filled with a piece of clean, empty, worker comb. The bees then quickly weld the pieces together. The drone comb should be used in the surplus boxes.

TRANSFERRING.

In regard to transferring stocks from box to frame hives, Mr. Alexander stated that he had made artificial swarms more than twenty years ago. For making swarms, and transferring comb, he always threw a sheet over the box-hive, after it was inverted, which had a loop directly in the center. By taking hold of the loop and raising the sheet, an opening was made in which the bees found it very convenient to cluster. The sheet should be doubled until no light could penetrate it. The bees could then be put in a box until the combs were transferred. The hive is drummed, as in driving them into a box.

The association then adjourned until 9 A. M. next day.

The association was called to order at 9 A. M., pursuant to adjournment. The room at the Butterfield House was well filled, and the attendance much larger than on the previous day.

THE NORTH AMERICAN BEE-KEEPERS' SOCIETY.

Mr. Nellis offered the following preamble and resolution, which was adopted:

WHEREAS, Rev. W. F. Clarke, president of the North American Bee-keepers' Society, has issued a circular requesting bee-keepers all over the land to organize societies auxiliary to that; therefore

Resolved, That this association recognize the call and appoint delegates to attend the next meeting of the North American Bee-keepers' Society, to be held at Louisville, Kentucky.

Resolved, That the president of this association be instructed to invite all county or local societies of New England or this state, to coöperate with this association by sending delegates to attend its meetings, or by corresponding with its officers.

On motion of Mr. Root, it was resolved to leave the appointment of delegates to the National Society in the hands of the executive committee of this association.

PROFITS OF THE APIARY.

The question, "How may the greatest profit be obtained from the apiary; by increasing stocks, or by preventing the same?" was then taken up for discussion.

Mr. Sisson was in doubt as to which position to take. Raising stocks to sell at $20 each, or selling at moderate rates, made a decided difference in the matter. Where only a moderate price can be obtained, he would not advise an increase of stocks, but would endeavor to secure box honey, giving plenty of room. He used the machine exclusively, and can effectually prevent swarming by its use.

Mr. Root thought Mr. Sisson's position well taken. Bees should not be allowed to remain idle in attempts to swarm. He would recommend a moderate increase of stocks, one new from two old ones.

Mr. Sisson did not favor putting swarms in hives filled with empty comb, when box honey is wanted, as bees are not compelled to work by the necessity for comb, and are very uncertain in their efforts to fill the boxes. When the machine is used, he would use empty comb. When an increase of swarms is wanted, division should be made early, He would not, under ordinary circumstances, more than double his stocks, as greater increase was not usually safe.

Mr. Van Deusen had, during the past season, taken 167 pounds of extracted honey from one stock, and made three good stocks from what was at first but one.

TAKING IT EASY.

Mr. Sisson told of a friend of his who took stocks to California, and was offered $100 each for his stocks after his arrival. He refused to sell, but the bees finding that they could gather honey every day in the year, refused to gather any honey in store.

Capt. Hetherington had experimented somewhat in the matter under discussion. He considered the profits of non-swarming, and of moderate increase about equal.

Mr. Root stated that Mr. Barber had destroyed the desire to swarm by allowing the swarms to issue. After they cluster, he hives the bees in a box. He then takes all the frames except one from the parent stock. The boxes are then placed directly against this frame and the swarm returned to the hive. After 48 hours the other frames are put in the hive after destroying the queen cells. By this time the boxes are generally well filled with comb, and the desire to swarm is thwarted.

WHAT WAS THE TROUBLE?

The next question proposed was: "What were the causes of mortality among bees during the winter and spring of 1872?"

Mr. Bacon said the fall of 1871 was wet and cold, very unfavorable for bees. He put his bees in his cellar, very early, in consequence of the weather, and ventilated from the top. The result was the bees were very uneasy. After the meeting of this association last spring, he ventilated at the bottom of the hive, which seemed to improve the condition. Still bees were in wretched condition from the severity of the winter and the length of time they were confined.

Mr. Van Deusen said a neighbor of his wintered forty-six stocks successfully by putting them in a good warm cellar, and ventilating from below.

Mr. Van Alstyne thought the disaster in wintering came from the dampness of the autumn and the severity of the winter.

Mr. Nellis believed the damp autumn in connection with the long time during which they were confined, from October 1 to April 13, was the cause of the great mortality among bees. The honey seemed to be of as good quality as any ever gathered by bees.

Mr. Herrington thought impure air might aid the disaster among bees last winter.

Mr. Richards was of opinion that bees should by all means be allowed to fly during winter.

Mr. Sisson said stocks belonging to careless bee-keepers, kept in box hives, with no ventilation except that derived from the entrance, had been known to winter better than others in hives supposed to be better prepared for winter.

Mr. Nellis said one stock, stimulated to fly late in the fall, wintered better than any other stock in his cellar. He thought pure air not as important to bees as to human beings. Too much ventilation had been probably given frequently.

Mr. Quinby quoted the lately deceased Mr. Coe, who claimed that when bottom ventilation was neglected, carbonic acid gas was generated, very poisonous to bees. Mr. Quinby also read an article of his from one of the bee journals, in which was advanced the theory that suffering from cold is a primary cause of dysentery. Examples were given to sustain this point.

Mr. Van Deusen would let restless stocks fly in winter. For this purpose he places a stock, with the bottom board removed, over a gauze box, two feet square, in a light warm room. After they fly sufficiently, or at evening, the bees return to the hive. This has been found practicable, so far as tested. It also stimulates breeding.

Mr. Sisson said carbonic acid gas was poisonous to animal nature. It is heavier than air, and he thinks only enough downward ventilation should be given to allow its escape from the hive.

Mr. Tennant spoke of one of his neighbors who lost all his bees in a very cold cellar, while another neighbor, who kept his in a warm cellar, lost but two stocks. The bees were kept in hives of the same pattern.

The next question was: "What is considered the best artificial food upon which to winter bees?" Considerable discussion of no special importance followed.

The majority of persons present considered the best quality of white sugar the best for bees. It should be made into a syrup by dissolving four pounds of sugar in one quart of water. Bring it to a boiling point and skim.

SWEETS FOR THE SWEET.

Mr. Alexander thanked the ladies present for their attendance and congratulated them on their interest. He spoke of bee-keeping as a pursuit especially adapted to ladies, and predicted that after the pecuniary benefits reaped by Mrs. Tupper became generally known, more ladies would take up the business of bee-keeping.

The association adjourned until 2 P. M.

AFTER DINNER.

Association met at 2 P. M., Vice President Bacon in the chair. After the reading and approval of the minutes several matters of minor importance were discussed for the special benefit of individual members.

AMERICAN BEE JOURNAL.

The following resolutions were unanimously adopted:

Resolved, That the North-Eastern Bee-Keepers' Association regards the position of the editor of the AMERICAN BEE JOURNAL as the one best suited to develop the science.

Resolved, That so long as that position is sustained we heartily indorse that journal.

On motion of Mr. Alexander, the sum of $10 was appropriated to the Secretary for official services.

The time of the next meeting was fixed on the first Wednesday and Thursday of February, 1874. The thanks of the association were tendered the proprietors of the Butterfield House for courtesies, and the association adjourned.

[For the American Bee Journal.]

Introducing Virgin Queens.

MR. EDITOR:—I have been very suscessful in introducing virgin queens the past season. My plan is simple and in every case proved a success. Immediately after the swarms have left the parent hive, I enclose a queen in a cage, and put her in with a very small wax stopper, so that the bees can remove it in a short time. The principle is this, at the time of swarming the bees are all in a fever and excitement, and to a certain extent demoralized, so that a stranger introduced then will not be noticed, and by the time they are settled down she will have the scent of the bees and be cheerfully accepted. I found them invariable fertile and laying in a few days. The queen cells which are closed should be removed from the parent hive, and transferred to the nuclei. They generally make better queens than those raised in small hives.

Wm. Baker.

Milford Station, Somerset Co., Pa.

[For The American Bee Journal.]

Bees in Minnesota.

Editor Bee Journal.—When swarming commenced we had thirty stocks. The season, up to July, was poor. We fed 600 pounds honey. Commenced extracting July 16th. We used super-hives and empty comb in our Langstroth hives. Our bees are hybrids. We had a continual yield of honey up to about September 10th. We took 3,300 pounds with extractor, and have now 700 pounds sealed in our surplus combs—4,000 pounds total. We increased our stock, mostly by dividing, from thirty to fifty-six. We have now got our bees in the cellar—Nov. 12th. Last year we took 2,800 pounds of honey from twenty-two old stocks, and increased to thirty-two. We have beat "Novice," and that is glory enough for us. We believe the "*old age theory*" caused the death of nearly all the bees here last winter and spring.

How we saved a Queenless Stock of Bees from the Robbers after they had got well a going.

We took out the combs of honey, shook off the bees, carried the combs to the cellar till evening, leaving in the hive one comb for the bees to cluster on; at night the robbers had all gone home, then we brought back the combs of honey and gave the stock some brood to raise a queen from, put on a super to give air, closed the entrance to one-half inch; the next morning the robbers had to stand back. This was a strong stock, and the day before they had given up to the robbers and were not fighting at all.

We do all of our extracting in the shade of an oak tree, only a few rods from our bees. We have no trouble with the bees until after the yield of honey stops. We run our honey from the extractor into molasses barrels and set them in the barn; by the first of October it is grained; then I take the barrel head out and scoop out the honey with a sugar scoop. The honey has a coarse grain, the size of wheat kernels, the grain is soft and dissolves in the mouth like ice cream. We retail our honey, delivering anywhere within five miles, at only fifteen cents a pound. Our honey is mostly basswood and golden rod.

A word with "Novice." Do you use a ladder for the bees to climb from the top of the frames in lower hive to the bottom of frames in super—the space being about two inches. We can't saw the box apart with a bevel after it is nailed together, as you propose—we can't pass the corner; your hive and bottom being both beveled, when you move forward to enlarge the entrance the back part of the hive raises up, and leaves a space open on both sides, near the back end, large enough for moth worms. How much cheaper, easier, and nicer the Langstroth portico is than your lighting board, with its hooks? How much easier to enlarge or close the entrance with the entrance blocks than it is to pry up your hive (for the bees will stick it fast); to move it a little to enlarge the entrance, and then have to stand on your head to see if the entrance is the size you wish? These opinions we form by reading your article.

L. B. Aldrich.

Warsaw, Rice Co., Minn., Nov. 13, 1872.

[For the American Bee Journal.]

A Risky Experiment.

Mr. Editor:—Don't you think that we are too generally given to sound our successes and laud our actions as being mainly instrumental in the accomplishment thereof, while we ignore our failures and the causes producing them? Why we do so I know not, unless it be that our innate selfishness is gratified on the one hand, causing us to be more sociable and communicative; on the other hand, our reverses will cause us as it were to draw within ourselves, making us more reticent. I have found as a rule people do not like to expose their failures. If the correspondents of our B. J. would be more particular in giving us the whys of their failures, we might be able to guard, for instance, against such seasons as the past. I knew in season last fall that my bees would not do well, when they were put away, from the fact that I was not able to overhaul them. My practice is to take one or two frames out of full hives, dividing the space equally amongst the center combs, with the lower cells of the three center combs empty for the bees to cluster in; front entrance open three-quarters of an inch; from two to four eightpenny fence nails under the lids, according to strength of stocks, for upward ventilation. I have hitherto found it quite sufficient. My bees were put in the bee-house November 19th; they had been then exposed to two weeks frost with no upward ventilation, consequently the combs were covered with frost and the bees on the outside ranges of comb were then dead. The change from the cold to the warm bee-house of course thawed out the frost, causing dampness. Bees in such a state become restless, eat honey, and become gorged, not being able to fly out to discharge their fæces, become diseased—in fact we have the bee dysentery. The first thing I knew the bees were clustered outside the hives, while the floor was covered three or four inches deep. I slipped back the cover about two inches; that answered very well for the large hive, but the standard size would not be quieted. A tolerable fine day coming, I had eleven of the strongest carried out *at night*. The next day was too cool for them to take flight. They came out, discharging the fæces upon the hives, and at evening had gone in and become quiet. This partial success gave me hopes that I might save the balance, which still remained uneasy, and in a few nights after I had them all taken out and placed upon their permanent stands. I knew that it was against all rule or precedent to put bees out at night, with the thermometer below zero. I had studied the situation and resolved to run the risk, basing my decision upon the assumption that the bees, if put out at night, would naturally go into their hives and become quiet by daylight. The result proved the correctness of my thoughts; the weather remained cold for three weeks, when they got a chance to fly. My bees were saved, but very much reduced in numbers. F. Crathorne.

Bethlehem, Iowa.

[For American Bee Journal.]

How to Catch Absconding Swarms.

Dear Journal:—While recalling the various plans for hunting bees, it occurred to me to tell our brother bee-keepers of a very simple method to catch absconding swarms. The idea is new to me, and though some of your readers may know and practice this method, I have never seen it described in any bee journal.

The idea was imparted to me by a neighboring bee-keeper, who showed me two fine swarms he had thus obtained during the past summer. I propose to adopt the plan next season, and know that a great many of your readers will, also, if they should chance to read this, for it is a sure thing and not patented.

Should you enter a tract of woodland in a bee-keeping neighborhood, in the heighth of the swarming season, you will observe many bees searching closely around the trunks of the larger trees. When they find a cavity suitable for a future habitation, they return to the hive and are ready to guide the new swarm to their new home, if they succeed in getting away from the apiary, and we know that many do. Now, we want those swarms, and how are we to get them? Why, simply thus: Take a few old bee gums or box hives, nail bottoms to them, have a few small holes in the sides for entrances, and hang them up in a few of the large trees. If an absconding swarm enters the forest it is almost sure to enter one of your hives, which can be removed to your apiary at your leisure.

Don't leave any large holes in your decoy hive, if you do, squirrels are sure to enter also. My neighbor overlooked this matter, and found in one of his hives not only a swarm of bees, but also a nest of squirrels, all living harmoniously together.

Scientific.

Hartford, Washington Co., N. Y.

[For the American Bee Journal.]

Travel in Italy.

(CONTINUED.)

Out of twenty-two queens that we had to take in the place where we were, we had only taken seventeen and rejected one when the sun set. I was of opinion that we should stop our work, but Sartori said that we should take the other four, as they were the last we had in this part of the country. These four queens were not in the same apiary. We had to travel about half a mile across a valley. When we arrived it was almost dark, and after we had taken one queen it was night. Sartori asked for a candle, and there he stood, holding the light over the bees, and silently taking off the bees as they stung him on the hands. This search lasted for about an hour and a half, and he found only two queens. His hands were covered with stings. "I have been in worse places," said he, as we were coming back. "I have been stung once almost to death, and since that time I am venom-proof." His father, who inhabits Tyrol, has always kept bees above the door of his house, like they do in Italy. Sartori, at the age of fifteen, was fond of looking at the bees and handling them. He made many experiments with them, so that after a year of bungling he had destroyed or killed the twelve hives which composed his father's apiary. His father bought bees again, but forbade his son to touch them. The latter, to satisfy his passion, bought two hives with his pin-money. One day, having climbed on a ladder, he tried to take one of his hives down, he slided it on the board to bring it on his shoulder, but as it was heavier than he had expected to find it, it slipped faster than he desired, and fell on him covering his head down to his shoulders. Thousands of bees immediately stung him. He descended slowly from the ladder, hastily rid himself of the hive, and plunged his head in a barrel of cold water. "I was taken by fever," said he, "and it lasted two weeks, but for three months I could not look at my hives without a shudder." This accident, far from disgusting him with bee culture, stimulated him; for, after this, bee stings caused him very little pain.

The next day our host waked us at two o'clock in the morning. Having slept only three hours, I looked at my watch and said, "I wonder whether he is not mistaken, for what can we do at this time of night?" "Oh," said Sartori, "we have to travel two leagues this morning, and it will take us four hours. So it did, for we arrived at seven o'clock at the first apiary that we were to visit.

The road that we had to travel followed the course of a large creek then dry. On each side arose large mountains, covered with divers crops and vineyards in the lower part, and with pine and chestnut groves wherever the naked rock was not to be seen. From distance to distance, on the highest peaks, I perceived the ruins of an old castle or the spire of a church, whose bell called the peasants to their daily labor. Most generally the churches were placed near the castles, the priests near the lords, who thus have but little trouble to go to the house of worship, whilst the peasants, who live in the lower parts of the mountain, have to work on Sunday if they wish to go to church, for it is really a work to scale such a mountain when the weather is hot and the path slippery.

On each side of the road we could see peasants plowing the ground with oxen. "Horses are not strong enough to plow our lands," said our driver. I was convinced of the truth of this assertion when I saw their plows. The plow that Cincinnatus left when he went to Rome as a dictator, was not more primitive. Fancy a beam, over six feet long, terminated at one end by a wooden curve, on the end of which is fastened the point of an iron spear. Above this spear is a kind of rough wooden shovel. A single handle, three yards long and sharp at its extremity, is fastened to all this. The whole is heavy and badly made. To drive the oxen, the driver is armed with a light pole, ten feet long, with an iron point. I was shown a so-called American plow, but how different it was from the plows now in use in this country.

After having followed the creek for two hours, we had to scale for two hours more to arrive at our first halt. It is true that this station was the most distant of all that we had to visit on that day, the other stations being closer to Borgo Priolo.

A shoemaker, from whom we had bought six queens, asked us to take our breakfast with him. His wine was excellent, and had the bread been of good quality, we would have eaten a royal breakfast, for our *incettatore* had brought with him good cheese and sausage. I nowhere ate so good cheese and sausage as in Italy. They explained to me their recipe for sausage. Take as much pork as beef, hash the whole, add one pound of salt and one-half pound of ground pepper for every hundred pounds of meat, put in strong guts very tight and smoke it. The shoemaker's wife, seeing that I liked Parmesan cheese, offered me to taste hers. I accepted and found it good. She then began to explain how they made it, and to make me understand better, she brought the jar in which she kept it. I looked in but did not see any cheese. It was buried under a coat of maggots of all sizes. I then looked at what was left of the cheese I had tasted, and became convinced that I had innocently made hundreds of victims. It was too late. I drank a glass of water and hurriedly brought my mind to other subjects. All this is nothing but custom. In some countries the people eat fried grasshoppers. The shoemaker's wife was very clean and tidy. She had given us a tablecloth and napkins of radiant whiteness, and she was far from suspecting the astonishment and disgust that the maggots of her cheese had caused in my mind.

In Italy, as in Switzerland or France, in all the houses whose inmates are not altogether destitute, they use large and soft napkins, far different from the American napkins, so short and starched that one would as soon wipe his mouth with a piece of board or pasteboard. In England napkins are smaller than on the continent, but not so extravagantly small as they are in America. When I came to this country I sailed from Liverpool. When the hotel omnibus was ready to take me to the boat, I closed my trunk and looked around me to see whether I was not forgetting anything. I noticed a white piece of linen on the back of a chair, and supposing that it was my handkerchief, I took it and put it in my pocket. The next day only I discovered that I had stolen a napkin of the hotel.

During the breakfast the peddler boy asked me for the second time, whether I would be willing to bring him to the United States. "I would gladly do it," answered I, through Sartori, "if I were not afraid that you would repent of coming. Wine is dear in America." "What is it worth?" "More than $1.25 per litre." "I don't care," answered he, unwilling to show his deception. But he never again spoke of going to America. It should be admitted, indeed, that a population badly fed could not stand at work easily if they had no wine. During all this day we had not ceased going up and down the ravines of this hilly country. This work lasted twelve hours, for our breakfast supported us until nine o'clock P. M., and still I did not feel hungry, thanks to the grapes and wine so generously offered to us by every peasant at whose house we stopped. At first I tried to refuse, but Sartori having told me that these people were superstitious and considered the refusal of a stranger as a bad omen, I accepted and never experienced but a feeling of vigor necessary to perform our arduous work.

When leaving Milan we had calculated that the gathering of eighty-seven queens would take about two days, and we intended to spend the next day, which was Sunday, at the house of a bee-keeper of Alexandria. But we had not taken into account the time necessary to go from the railroad station to Borgo Priolo, and the interminable journeys across the ravines and over the rocks that we had to scale like goats. The *incettatore* had assured us that there was not more than a quarter of an hour of walk between each apiary; but the hours of Piedmont are as interminable as their leagues. The population knows but little how to estimate the length of an hour. How could they know it? They have no clocks in any place. In Milan I saw clocks on all the public buildings, but I saw only one with two hands, all the rest had but one, and very often it did not work. It is so sweet to let the hours roll without counting them! This pleasure is better appreciated by Italians than by any other nation in the world.

The next day being Sunday, we had about twenty queens more to get, I supposed that we would leave them, but Sartori told me, although he is a strong Catholic, that nobody would be offended. Indeed, the population of the villages that we visited followed us from one apiary to another. Men, women, children, all wanted to see us work. "Tell them that they will get stung if they remain around us," said I to Sartori. "Leave them," answered he, "we will laugh." Truly it was a laughable sight for the most sober mind to see the *sauve-qui-peut* when the bees assailed the most inquisive of the crowd. The noise, gestures, races, contortions, would have been a fit subject for the pencil of Teniers. CH. DADANT.

Hamilton, Ill.

(To be continued.)

[From the San Diego Daily Union of Nov. 21, 1872.]

Apiaries in San Diego, Cal.

EXTENT OF THE APIARY BUSINESS IN THIS COUNTY—ESTABLISHED SUPERIORITY OF SAN DIEGO HONEY—PROFITS OF THE BUSINESS—PROBABLE FUTURE OF THE INDUSTRY IN SAN DIEGO.

The honey bee was introduced into this State from the East as early as March, 1853, but the apiary business attained no great importance until several years later. The persons who first attempted the introduction of the bee into California met with many difficulties. Their inexperience in shipping the insect so great a distance, and through hot countries, caused them to suffer severe losses. In some instances entire shipments of hives were ruined by the destructive worms which had been hatched on entering the warm climate from the eggs laid by the moth previous to starting.

To Mr. J. S. Harbison, of the firm of Clark & Harbison, is due the honor of developing the apiary business in California to that prominence which it has attained. When nearly all who had made experiments in importing bees united in saying that they would not thrive in California, he differed with them and took measures to further test the matter.

In the fall of 1855 he sent east and had one hive of bees brought out, which arrived at Sacramento on the 1st day of February, 1856. Though most of the bees died or escaped on the passage, enough remained to prove that, with proper care and attention they could be imported with little loss, and that they would increase and make large quantities of honey when brought here in a proper manner.

The subject occupied the chief portion of Mr. Harbison's attention for nearly two years. At the expiration of that time he determined to go east and personally superintend the shipping of some hives. With this object in view, he left California in May, 1857, and proceeded directly to Lawrence county, Pennsylvania. Here sixty-seven hives were taken from his Lawrence county apiaries, (Mr. Harbison had already engaged in the business in the East), and got in readiness for the long trip to California by way of Panama. At Aspinwall, Mr. Harbison judiciously opened the hives and allowed the bees to fly; a procedure which benefited them greatly, no doubt contributing to their good health during the remainder of the voyage. Even with all the care and attention bestowed upon them, but few of the hives arrived in good shape. Mr. Harbison proceeded east again the following year—1858—and brought out another lot of hives with a little better success.

These two importations, together with a third in 1859, were sufficient, however, to start the business and demonstrate its profits. Others ventured to engaged in it, and soon apiaries became numerous throughout the state. Over 5,000 hives were imported during 1859-60, by different persons. Mr. Harbison kept the lead, however, and earned the distinction at that early day, of being the most enterprising and best informed apiarist in the state.

As soon as it became apparent that honey making would pay, those interested in the business began to cast around to obtain the best kind of bees. Mr. Harbison was foremost here again. In 1865 he went east, and on his return brought with him selections of Italian bees, made from the most noted apiaries in the eastern states, and also seventeen of the choicest queens he could find. The hives of Harbison are now composed entirely of the very best honey making bees.

Mr. Harbison is engaged in transferring as rapidly as possible, his entire stock of bees to this county, recognizing the advantages it possesses for the apiary business. The firm has now established in this county four apiaries, with 1,180 hives. All the bees are of the highest and most improved breeds, and the honey produced by them is whiter and purer than any produced eleswhere in the state. For three successive years a first premium has been awarded to Clark and Harbison for their San Diego honey, by the State Agricultural Association. Notwithstanding the fact that nearly sixty specimens were exhibited at the last State Fair, the judges, in making their award, said that they experienced no difficulty in deciding, as that from San Diego was unquestionably superior in every respect to all the other honey exhibited. The specimen that took the last prize has been sent to the International Exhibition at Vienna, and will unquestionably receive a premium there.

The quantity of honey exported from San Diego last year was 27,600 pounds. The export this year will probable be twenty per cent. in excess of last year, and it is confidently expected that the quantity for shipment next year will fall very little short of 100,000 pounds. These expectations are of couse based on the probability of our having a wet season. In any event, wet or dry, the shipment will not be much less than 60,000 pounds in 1873.

Although Clark & Harbison are by far the leading apiarists in this county, they do not monopolize the business by any means. It is a noticeable fact that during the past year this firm sold nearly three hundred stands of bees to farmers in every part of the county. Nearly every ranch in San Diego is now an apiary on a small scale; the surplus honey which will be produced by these many hives of bees scattered all over the county, will add greatly to the quantity for exportation next year. From present indications it is safe to predict that the superior advantages enjoyed by this county will, in the course of two years, entitle it to the rank of the largest producer of honey in the state—it has already made its reputation so far as quality is concerned.

Honey as Medicine.

The *Herald of Health*, in reply to the question, "is honey wholesome?" says, "yes, used in moderation, it is. Very old honey, however, should be eschewed. A German teacher has lately written a work on the subject of honey and its healing properties. While he may over-estimate its value, what he says is interesting. We quote: 'A strong influence for publishing this book was the fact that I, a sufferer from hemorrhages, already given up to despair, and at the verge of the grave, was saved by the wonderful curative powers of honey; and now, thank God, I am freed, not only from weakness of my lungs, but rejoice in the possession of perfect health.

'At my first attack, upwards of thirty years ago, powders and tea were ordered for me, which benefited me but little. I then placed but little confidence in honey, which I had used occasionally, and in small quantities. Judging from my present knowledge, I believe that the honey was the only remedy that was doing me any good, and it is this that I have to thank for the gradual, the sure restoration of my health.

'As my disease increased I began to use cod liver oil, which weakened and injured my stomach so that I could hardly digest anything more, and my condition became worse and worse. Again I returned to honey, when my suffering immediately began to decrease and disappear. Besides the use of honey, I took pains to preserve my breast and lungs from injury, which, in my trying situation as public teacher, was almost impossible. My disease being caused by my constant teaching during so many years, I gave up my profession, and honey was my only medicine, whereby I, by the simplest, safest, quickest and pleasantest manner (for I was fond of honey), relieved the disease in my throat; and out of thankfulness I now write this book for the use and benefit of many, especially for the use of those suffering from diseases of the throat and lungs."

Note by Ed. A. B. J.—Many of our readers will recognize the above quotation as part of an article of considerable length, which appeared in last November's Journal. We reproduce it here under the high medical sanction of the *Herald of Health*, in reply to enquiries made to us as to whether honey is good for persons of consumptive tendency.

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[For the American Bee Journal.]

Review of the December Journal.

Mr. Editor:—I am again highly pleased to receive the Journal. Novice leads off as usual. That is all right, for if he did not we would not begin to read at the first page, but turn to where we found him and begin there. Novice is certainly mistaken when he says Mr. Leuthe, and every other bee-keeper, can certainly get a barrel of honey from every ten stocks in the poorest season, and that it looks bad to see so many correspondents telling about poor seasons, "the poorest ever known," &c. I did not keep an exact weight of honey this season, but it was just about five hundred and fifty pounds, from thirty-one stands, in the spring, and I used the extractor exclusively and more freely than I ought to have done; though the flowers were never more abundant. Never did I know such abundant autumn bloom as we had this year, and yet it contained no honey.

Those who have read my article in the December number, dated Sept. 10th, will see that I expected to have to feed back as much as I had taken away, if the then abundant bloom did not furnish the bees with honey. I had to feed back in sugar syrup far more than I had taken away. Honey was very abundant for about two weeks at the time I was extracting, so I got deceived, and, *Novice-like*, extracted all out of almost every hive that I extracted from, thinking the season would continue good, and the bees would fill up again in a few days. But a sudden end to the season taught me a very valuable *lesson*, which I shall ever heed hereafter. That is, to always leave the four middle frames, or about at least fifteen pounds of sealed honey, in case the season should suddenly end. Now, I would ask Novice how I could have got a barrel (375 lbs.,) from every ten stands under these circumstances. Does not almost every report from Canada to Iowa, and also south, agree that the flowers the present season contained little or no honey, and has Novice forgotten that *bees do not make honey* but *gather* it, and as the flowers did not secrete it this year in every location, how could the bees gather it?

Next comes the Bay State hive, that with Alley's piece on page 128, I will answer to night, under the head of Bee Houses.

Dronings, in the present number, is sound in his bee doctrine.

No one will fail to read the "Chatauqua Co. Bee-keepers." To notice many items of interest in it would extend my present piece too long.

C. S. Rogers wants to know from some experienced importer of Italians about Ed. Uhle's queens, &c. I also want the same information, having received two queens last year, in July and August, from Uhle, and bred a lot from one of them at a time when there was not a black drone living. The mother and every one of her daughters were *pure hybrids*.

Next comes the New Idea hive. I am inclined to believe from experience, though not in any new idea hive, but the principle, that bees will store three times as much in the main body of the hive, near the brood, as they will on top with a honey board intervening, or on sides with a partition board. I have six double Langstroth, but never got any good out of them only when I give the top one empty combs to fill. If any one thinks I never had the New Idea in my head before, let him come here and I will show him a New Idea hive I made June 1, 1870, and transferred bees into it the same evening, and would not give it for any other hive in my apiary. But I give Adair and Gallup the credit of putting empty frames in the middle. I had never thought of that which I consider the main gist of the whole idea. There is still, however, a difficulty to be overcome which I would like to state to Adair and Gallup. When you put empty frames in, how do you prevent the bees building drone comb in them? In taking out full frames to make swarms and replacing empty ones, in six cases out of ten, I get drone comb, no matter what the age of the queen is, unless I previously insert half an inch thick pieces of worker comb on the top and sides of the frame as guides.

M. Malin tells us how to get straight comb. A bee-keeper is very stupid who cannot get straight comb.

Well, Mr. Cameron, I think the winds of Kansas are so strong that bees will never flourish there. I have sent bees there several times, and the winds blow them away.

Here is friend Novice again on page 133. He is right this time, and proposes to keep right through 1873. This has always been my aim, to give both sides, the dark as well as the bright. I did my best with bees this year, and wouldn't say I got a barrel from every ten stands, as Novice says I could have done. As great bee men as Novice, who had no better season than I did this year, will say they have done no better, if as well. Did not friend Burch think my calculations of the amount of honey and increase of bees for this season, if it was a good one, very large? I still think I can do better than that calculation in a real good season, with the same number of stocks.

My article is getting too long, so I will hurry over to friend Burch on page 142, and close. Well, friend Burch, do you know what you are doing, when you tell us what A. C. Balch says he has done by forced fertilization? I fear it will be read by forty-nine doubting Thomases out of every fifty, and *I confess myself one of them.* I have tried the same thing many a time since 1868. I have seen queens unable to fly come and make the attempt. Have picked them up and held drones to them as Mr. Balch did, also have held drones to them without touching them. Have caught drones just leaving a hive, in a dish cover, without touching the drone, and put the dish cover down on a queen in the grass on her way to meet the drone that I had not touched, and for all this it was nothing but "vanity and vexation of spirit," a total *failure.* Friend Burch puts the question, "How did he (Mr. Balch) knows this was so?" and then goes on to answer it, but he didn't—at least he didn't satisfy me. If Mr. Balch can convince me that it is a success, and will write to me giving me full instructions, so that I do not fail, I will send him the first dozen queens fertilized by his process as early in the spring as possible. Mr. Balch should remember that my southern location will enable me to send them several weeks sooner than he can get them in the North. Hoping that Mr. Balch will convince one doubting *Thomas,* I remain the Journal's friend. R. M. Argo.

Dec. 2, 1872.

Brief Reports, &c.

Mr. Samuel W. Lond, of Virden, Ill., says: "Last season was hard on the bees. At least three-fourths of the bees in this part of the country are already dead. I have lost but six colonies out of thirty; but then I have read the American Bee Journal for several years, whereas, my neighbors don't think it pays to take a paper devoted to apiculture."

P. S. to "Novice's" article, Feb. 15, 1873, ask Mr. Kellogg, page 188, if those colonies that had "empty combs all summer" were strong in bees early in the season? We never knew a season in which *powerful colonies* would fail to get honey.

Tell Mr. Hosmer, same page, that bees all hatched before September are now *perfectly healthy* on the sugar syrup diet, and that young bees, side by side with *natural stores,* have some dysentery.

J. P. Fortune, of Bloomfield, Iowa, says: "I want a fumigator, one that will burn if it is not in use for a few minutes. There are some that will, burn and do very well so long as they are in use, but as soon as the operator quits blowing through them the fire goes out. Who has one that won't 'hang fire?'"

Ans.—Get "punk," (*i. e.* hard wood that has the dry rot). It will hold fire a long time, make a smoke without blazing when blown, and is always ready for use if kept under cover.

Henry Hudson of Fennville, Allegan Co., Mich., says: "We bee-keepers don't want the space which we pay for filled up with personalities, wranglings, criminations and recriminations of speculators in patent humbugs and queen bees, to the exclusion of the practical experience of enterprising honey producers. What if old father Wagner was so forbearing that the big boys rather ran over him? I hope you won't follow in his footsteps in that respect. If they want to vent their spleen, let them have a "Wranglers' Department," and done with it; but make them pay you for it, like other advertisements, and not use our paper and money to do it with.

It is a pity, for consistency sake, that "Novice," after calling down the vengeance of the whole tribe on his devoted head for exposing them so long, should go into the axe-grinding business; but then as he pays so liberally for the use of the stone as well as power, by his preëminently valuable contributions, and as he hits right and left, but always squarely, why let him hit, if he does grind, for he does it all in good part, and then he has gone to work and got a little grindstone of his own, and proposes to grind out the flour and bolt it too, so we can get of him none but the best superfine flour. Therefore I, for one, say let *him* grind, and let Gallup punch him now and then to call him out."

"Novice" writes, under date of Feb. 17, "Colony, with natural stores, that have soiled hive, quilt and comb so badly, are also crawling out of hive with bodies distended. We have taken them out of the house and find plenty of eggs and brood, but more than half of what was a large colony of bees, dead. They also raised brood late in the fall on account of liberal feeding.

"The one by its side, containing *only old bees* and an *unfertile queen,* is in perfect health, having lost almost none, of what did not exceed a quart of bees in September, but having no other stores than sealed *sugar syrup,* which was given them in combs from the 'barrel feeder,' their own combs having been *all* removed."

H. S. VanAnglen, of Waverly, Lafayette Co., Mo., writes:

"An acquaintance of mine speaks of 'Novice' thusly, 'On what meat hath this our Cæsar fed, that he is become so great?' It is true that 'Novice' is becoming *slightly arrogant,* but I say, let him *ventilate* thoroughly through the A. B. J."

C. A. Camp, Painesville, O., writes: "As a general thing, apiaries in this locality have suffered much from the extreme cold."

J. R. Gardner, of Christiansburg, Va., writes: "I am happy to see by the late numbers of the Journal, that it has fallen into such clever hands. May it long continue the 'Queen' of bee journals, and not go into any particular hive and become a 'king.' Let us have nothing more pretentious in the way of a hive connected with it, than the one that now adorns its cover."

D. M. Miller, of Mercer, Mercer Co., Pa., writes: "As for the bee business, it is gone up Salt River—it is *dead* in this country."

[We insert this piece of startling intelligence, to wake friend Hoagland, that we may hear from him.]

M. H. Milster, of Frohna, Perry Co., Mo., writes. "My time for the American Bee Journal has expired with this month. I have received my last number, and wishing to continue, send my subscription. I am much pleased with the Journal. I am not discouraged with bee-keeping, notwithstanding my bad luck. I have lost eleven stocks this winter with dysentery. The last season was tolerably favorable, and hoping for better times, I will continue my search for knowledge into the hidden things of bee life."

THE AMERICAN BEE JOURNAL.

Chicago, March, 1873.

Mr. Langstroth's Patent and Suit

We receive a number of letters inquiring whether Mr. Langstroth's patent is to be extended, and whether the suit is given up. The best reply to such questions will be to quote the following passage from a recent letter of Mr. Langstroth's: "I have made no application for an extension of my patent, and it will soon be public property. Sickness, etc., has caused great delay in the prosecution of the suit, but it is not given up, and I am confident that the verdict will sustain my patent."

More Unavoidable Delay.

We must still crave an exercise of patience on the part of our readers and correspondents. February was a short month, it generally is; and half of it was consumed in an unavoidable visit to Canada, to settle up our affairs. The consequence is, that we are in arrears with correspondence, and late in getting out the March issue. We find that owing to a glut of mail matter, caused by simultaneous arrival of storm bound trains, our February number lay some days in the Chicago Postoffice. When there is a plethora of mail matter, periodicals must wait. Letters. dailies, and weeklies have the right of way. We suppose this is proper enough; but of course it isn't pleasant for our subscribers to wait, nor for us to get letters asking "Why doesn't my Journal come?" or "Pray let me know what time in the month I may look for my Journal?"

Too Kind!

Our friends are pouring in their favors in the way of communications at such a rate that we are bewildered and overwhelmed. Gallup, for example, took such a fit of writing, that *on one day* we got no less than *ten* separate communications from him! A few days afterward he wrote, saying, "I suppose you received my shower of articles." A "shower!" It was a storm, a hurricane, a perfect tornado. We shut the hatchways, put on the tarpaulins, and set the pumps at work, but the good old A. B. J. hasn't righted herself yet. We have hopes, however, that she will, in time.

Addresses.

Correspondents are particularly requested to be careful in giving their addresses in full, including county and state. In several instances, we are unable to rectify our books and lists, for want of *exact* directions. In one instance, the opposite mistake has been made. We have received $2.00 from Evansville, Wis., without the sender's name. Probably, however, we shall soon have a letter asking if we got that $2.00, for we find many people are in such a hurry to know that their money is safe that they cannot wait until the next issue for the acknowledgment of it. It would save us considerable annoyance, if we could acknowledge receipt of monies by telegraph.

A Good Bee-Feeder.

Bee-keepers in want of a cheap, handy, effective bee-feeder, will find one advertised in our present issue by Mr. C. C. VanDeusen, of Sprout Brook, N. Y. We used it last season in our apiary, and liked it much.

To Canadian Bee-Keepers.

Canadian bee-keepers who receive a specimen copy of the American Bee Journal and desire to subscribe for it, will, until further notice, send their orders and remittances to W. F. Clarke, Guelph, Ontario.

☞ The article on "Spontaneous Generation and Parthenogenesis," which occupies the first place in the present number will well repay a most attentive perusal.

☞ The advertisements of Will. R. King and others were too late for this month's Journal, and we earnestly request our advertising patrons to send their favors in good season for the April number.

☞ "Bees and their Management," by Mrs. E. S. Tupper, is an excellent little manual for beginners in bee-keeping. See advertisement.

☞ Mr. A. C. Atwood, Vanneck, Ontario, Secretary of the Ontario Bee-Keepers' Association, has bought out the interest of Mr. J. H. Thomas, in the Thomas hive, the *Canadian Bee-Keepers' Guide*, etc., and expects to expand his bee business considerably the coming season. His advertisement will appear in our April issue.

Death of Mrs. Langstroth.

The numerous friends of Rev. L. L. Langstroth will be pained to learn that he has recently been sorely afflicted in the sickness and death of his estimable wife. In a private letter, dated Feb. 1, Mr. L. says of his deceased companion: "She had an illness of only ten days, and we buried her a week ago. Her end was peace and joy. She retained her consciousness fully until about an hour before she gently fell asleep in Jesus. It pleased God to grant me restoration to health, and I was able to be with her every night but one."

We expected to receive a full obituary notice of the late Mrs. L. for insertion in our present issue, but a letter from Mr. L. says: "The obituary is not yet sent to me by the friend who is preparing it, and it cannot appear in the March number; perhaps it may not be best to insert it at all in the A. B. J. I have written some account of my dear wife's sickness and end for an old Yale friend, which he will send you for your private perusal." Several passages in this account are so beautiful and touching that we trust Mr. Langstroth will pardon the liberty we take in transferring them to the A. B. J. They will, we are sure, be read with interest by all.

"My dear wife's sickness was only ten days, but she has been an invalid for the last fourteen years, and just previous to her last sickness she had lost her strength and flesh by a cruel felon which left her without any use of her right hand, and no prospect that she would ever again have any good use of it. Her sickness began with a violent nervous chill, affecting at first the brain, but during most of her illness she was in perfect possession of all her faculties. She died as she had lived, full of faith and love, and able to comfort us all by repeating the precious promises of God's word. Sorrowing as we do that we shall see her face no more, we rejoice that she has entered into her rest, and that we have the rich treasure of her unselfish and holy example. From a child she delighted to store her memory with the Holy Scriptures and the sweet songs of Zion. At the death-bed of her father, an intimate friend of our dear Dr. Taylor, she said (when not six years old,) to her mother: 'To see dear father so happy reminds me of the hymn,

Jesus, the vision of thy face
Hath overpowering charms;
Scarce can I feel death's cold embrace
While folded in thine arms.'

Her mother told me that when she repeated these lines her father drew her down to him and kissing her said: 'Precious child.' How early she entered upon her life work of consoling the afflicted. 'Precious child!' Precious sister, precious wife, mother, grandmother, friend! Surely it was such a character, intimately known and loved, that inspired the pen of the sacred writer:

'The heart of her husband doth *safely* TRUST in her, for she will do him good, and not evil, all the days of her life.

'She openeth her mouth with wisdom, and in her tongue is the *law of kindness*.

'Her children shall rise up and call her blessed; her husband, also, he praiseth her. Many daughters have done virtuously, but *thou excellest them all*.'

At one time during her sickness she became unconscious, her extremities grew cold, and we gathered around her bed to see her breathe her last, but after some hours she revived, and opening her eyes spoke of the blessed sleep God had given her, and her mind taking in at once the situation, she said to me: 'Those lines of Hood, dearest:

We thought her dying when she slept,
And sleeping when she died.'

If you are familiar with the piece, beginning with the words,

'We watched her breathing through the night,
Her breathing soft and low,'

you will see how touchingly she expressed her perfect consciousness.

In nearly thirty-nine years of acquaintance I never knew her, in a single instance, deliberately to prefer her own happiness to that of others. Similar is the testimony of sisters, brothers, and all who knew her intimately. About an hour before she died she fell into a gentle sleep, and woke to find herself beyond the Jordan. God granting to her a desire often expressed, that she might thus peacefully fall asleep in Jesus."

Our sympathies, and those of our readers generally, are with our dear friend in this his greatest earthly trouble. May he be enabled to say, "Good is the will of the Lord." "God is our refuge and strength, a very present help in trouble."

[For the American Bee Journal.]

Bee Stands and Bottom Boards.

DEAR BEE JOURNAL:—Some of the writers of the JOURNAL recommend, and practice, placing hives upon the ground, with only a two-inch strip under the bottom board. I prefer placing my stocks on stands about twenty inches high. My reasons are: first, the stocks are kept dryer by a little elevation; second, they are much more convenient to examine; and thirdly, we avoid the annoyance of skunks and toads. My stands are made as follows: Take four square posts twenty inches long, three boards the required length, (say five feet), and one foot wide, and two boards twenty-six inches long. Nail the long boards to the posts, letting the square ends come even with the posts, then nail on the end pieces; next nail the remaining board in the centre, (edge up), even at the top with the sides. Such a stand will accommodate two hives, if the hives are painted different colors. The bottom board of the hive then rests on the edge of three one-inch boards. Such a stand, when well nailed and properly adjusted, stands very firm, and the bottom of the hive coming in contact only with the edge of the boards forming the stand, but little opportunity is offered for the harboring of moths and ants.

In regard to bottom boards—a stationary bottom board (except on small nucleus hives) is an intolerable nuisance, not to be thought of. For more then twenty years, I have used a bottom board similar to that described by Novice, if I understand him. The idea of so constructing it, was gathered from the work, "Bevan on the Bee." I first used it under box hives, but retained that form of bottom on adopting the Langstroth hive. My hives are twenty inches from front to rear, (outside measure,) with inside lower edge of front and rear beveled to near an edge, *outside* of sides beveled also, bottom board twenty-six inches long. At twenty and one-half inches from rear end, start the entrance two inches wide and running to six or seven inches in width at front end, also increasing the depth of cut to one-half or three-quarters of an inch, making a V or triangular shaped entrance. The advantages are, that by simply sliding the hive back it may be effectually closed, or it may be contracted or enlarged at pleasure. To give a populous stock sufficient entrance and air in very hot weather, we raise the front end of hive and insert blocks three-eighths of an inch in thickness.

W. J. Davis.

Youngsville, Pa., Oct. 14, 1872.

[For the American Bee Journal.]

Gallup's Explanations to Wurster.

Mr. C. Wurster, on page 137, December number, seems to wish for an explanation. In my own hive, the combs run lengthwise of the entrance, as I failed entirely a few years ago with combs running across the entrance. But Mr. Adair's "New Idea" runs across the entrance, and he claims that a new swarm placed in said hive will commence the brood nest near the entrance. Here he is correct, but after the brood nest is once established, we must move it to the rear, or into the centre, and then a strong stock will build both ways, or both front and rear of the brood nest. I am inclined to think that they are more apt to build towards the front than towards the rear. But if we have the hive four feet long, and after placing the brood nest in the centre, the bees are inclined to build too much to the front, we can reverse the hive, and bring the other end to the front, as I make both my own hive and the "New Idea" with entrances just alike in both ends. Now, Mr. Wurster, you will see that by keeping the brood nest in the centre of the "New Idea" hive, the bees will not starve in winter, as they have plenty of honey both front and rear of the cluster of bees.

I think in that form of hive they would not move to the rear in winter, but move towards the front, if at all. If what Mr. Adair claims for this form of hive is correct, we certainly ought to be willing to give it a fair and impartial trial. Mr. Adair and myself have arrived at the same conclusions in many respects, and both at about the same time. I am inclined to think that the same results can be obtained to a certain extent in both the "New Idea" form and the square or twin form of hive, but the twin form is the most expensive hive, and will require more manipulation than the "New Idea" form, even when both are of the same capacity of 32 combs each. But as I have said before, it will require a better season than the past for a satisfactory test, and it is of importance that it should be tested by impartial persons in different localities. Four feet is not one particle too long for my locality, and if I was going to start with new combs and new hives, I should make the hive so as to hold the same sized combs as Mr. Adair's, and still retain the same length of hive. My combs that I now use, are the same depth as his, but two inches narrower. With Mr. Adair's sections or comb frames, with a half-inch thick side bar to the frame, the queen does not usually deposit eggs to within one inch of the wood on each side. Therefore I get as much width of brood to within an inch as he does in a comb two inches wider. The side bars to my combs are only about one-eighth of an inch thick, consequently the queen will deposit eggs in the very outside cells. We have used zinc side bars, but thought them too cold. But perhaps it was only a notion of ours after all. Now, please take notice, that we never like to have our hives filled up with great big bungling sticks, improperly nailed together for our bees to brood. You will readily see that it is impossible to nail down through the top bar into our side bar, as they are so thin, consequently, they always have to be nailed right, and then are never pulling to pieces. So we don't want Novice's tin corners, and could not be bothered with them at any price. Mr. Editor, isn't "Novice" trying to get his fingers into our pockets a trifle, with his tin corners, tin teakettles, bed quilts, pillow cases, honey knives, and twenty-five cent magazines ?

E. Gallup.

Orchard, Iowa.

[For the American Bee Journal.]

On Extracted Honey and the Proper Manner to Put it Up for Sale.

The use of movable comb hives and honey extractors, and the consequent increased supply of honey, has brought into existence new industries, such as the manufacture of glass honey-jars, corks, labels, tinfoil caps, etc., for putting the honey in salable shape, or packing it for transportation. Everything in the line of articles above mentioned, I can furnish from this city at rates as favorable as they can be bought at any other point.

The best shaped honey jars, in my estimation, both for sale and for packing with the least waste space, are square jars, containing one or two pounds of honey. I shall have on hand for next season a large lot of these jars, with the imprint, "One or two lbs. Pure Honey," respectively on each jar, with suitable place for label. I also furnish corks and tinfoil caps, and labels with blanks left to insert producer's name and address. Or, if ordered in quantities not less than 1,000, I can, at a slight advance, have the address printed.

After the jar is corked, press tinfoil cap over the cork and neck of the bottle with your hand first, and then finish with a leather strap about five-eighths of an inch wide and four feet long, one end of it fastened to the wall. The strap should be wrapped once around the neck of the bottle, and while one end is held tight by one hand the bottle should be passed forward and backward until the tinfoil is properly smoothed down. For my own use I have made a "horse," so I can sit down to the work of capping my jars, keeping the strap tight with one foot, and using both hands on the jar.

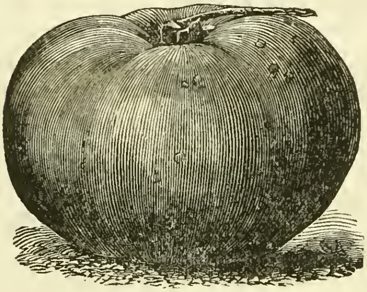
For shipping, jars should be packed tight with sawdust, and one dozen in a box specially made for the purpose. A bee keeper should sell by the gross his one or two pound jars of honey to merchants in the country or city, or have it sold on commission until his brand is known. With his label on jars and his brand on boxes, he will soon find a market if he bottles a choice article only. Good honey put up neatly and in small quantities will always bring the best price, and it is my experience that *machine extracted* honey is the preferred article if the consumer is once convinced of its purity.

A manufactured article of Cuba honey finds a ready market in our cities, because it is put up in merchantable shape, *i. e.* in jars, nicely labeled and styled "White Clover Honey." Now, I claim that the sale of a manufactured article would not be possible if our bee keepers would only take the necessary pains to bring into market, in proper shape and under their own names, their *machine extracted* honey, which is the only pure honey possible, and if once known to consumers will be the only honey in demand.

For list of prices, see advertisment in another column, and for further particulars, address

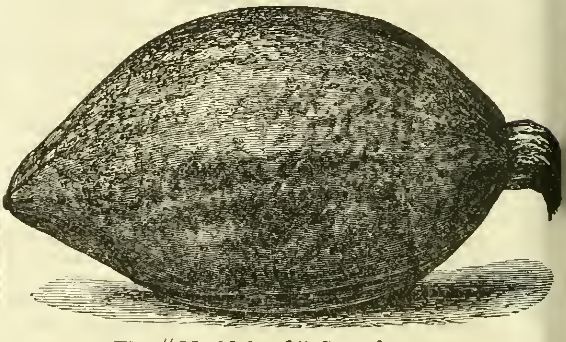
CHAS. F. MUTH.

Cincinnati, O., March 1, 1873.



Canada Victor Tomato.

This is a a new tomato, concerning which Mr. J. J. H. Gregory says: "Last season a gentleman residing in Canada sent me a glowing description of a new tomato. I wrote asking for a pinch of seed that I might test it in my experimental garden,—a tract of land of about three-quarters of an acre, which is pretty well filled every season with varieties of new vegetables my numerous correspondents kindly send me for trial. I planted these on my ground, anticipating the usual result, a tomato with some very good characteristics, but on the whole not superior to some kinds already before the public. About the time the plants were put out, I left for Europe; when I returned my foreman called my special attention to this new tomato, which *had ripened its fruit several days earlier than any other kind of the twenty-five varieties I was growing scattered over my different farms.* On examining the new sort I saw at a glance that here was a decided acquisition. The fruit was not only the earliest of all, but of large size and exceedingly symmetrical and handsome, while in ripening it had no green left around the stem, a great fault with many kinds otherwise good. The fruit was heavy, full meated and rich, between round and oval in shape, and red in color; it was distributed very evenly on the vines. A correspondence developed the fact that the gentleman who sent it had for the past three seasons been testing it side by side with other standard varieties, and found that it ripened six to ten days earlier. This fact may be in part accounted for by its having been grown for years in a northern latitude, while the utmost care had always been used in the selecting of seed stock. As fair a test as I can present of its merits is this: a market gardener came over forty miles specially to examine my varieties of tomatoes on the ground as they grew, that he might select the very best for his own planting. After carefully examining every sort, *he emphatically declared his preference for this new kind*, though he knew nothing of its history." See advertisement.



The "Marblehead" Squash.

The above engraving is that of a new squash sent out for the first time this season, by Mr. J. J. H. Gregory. He has named it the "Marblehead," and says of it: "This new squash, as a rule, is characterized by a shell of more flinty hardness than the Hubbard. It is usually thicker and flatter at the top. It has a greater specific gravity. The flesh is of rather a lighter color than the Hubbard, while its combination of sweetness, dryness and delicious flavor is something really remarkable. In yield it equals the Hubbard, while its keeping properties are declared to surpass that famous variety. In the important matter of purity, it excels the Hubbard and every squash that I have ever raised. Its outer color is a light blue; not to be confounded with the blue colored squashes that come at times from the Hubbard seed—mongrels made by a cross of the Hubbard and a thin skinned squash which we used to call Middleton blue, which we were raising before we knew of the Hubbard, and raised for a few years after we had the Hubbard, side by side with it."

Marshall P. Wilder, Geo. B. Loring, and Paschall Morris, having tested this new squash, recommend it very highly. For further particulars, see advertisement.

Bee-Keepers' Call.

All bee-keepers in favor of a call and organization of a Bee-Keepers' Society in Corry, Pa., on the third Wednesday in April, will address the undersigned on receipt of this JOURNAL, and if enough respond I will make arrangements for a room and reduced hotel and railroad fare, and will report in April number of JOURNAL. E. L. WELLMAN,

February 20, 1873. Corry, Pa.

AMERICAN BEE JOURNAL.

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AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

VOL. VIII. **APRIL, 1873.** No. 10.

Novice.

Dear Bee Journal.—It would appear from the March number, just at hand, that if our aim in writing was popularity, we were decidedly going down hill; but as it isn't anything of the kind, we presume we had better try to be useful in our own way, however imperfect it may be. As to the continued charges of axe-grinding, we wish to make this little defence. If having "things to sell" is axe-grinding, we shall most assuredly "grind" so long as we live. We believe everything we have offered for sale was first described as fully, and at length, too, as we knew how, with no thought or intention of selling, as may be seen from back numbers of the Journal.

First, some one wanted us to make him a honey-knife as we preferred them. Now, as we could not afford to give them away, we were obliged to sell 'em, and at once used the *advertisimg pages* in so doing, for we did not want to lay ourselves open to such charges as have been made. Our readers can decide whether our knives were a boon to the community or not, and whether the price was not a fair, honest one.

After recommending a hive that could be made for a "dollar," some one said at once they *could not* be made for that price, which stirred our "grit," and again we said on the *advertising pages*, "Hives for $1.00;" and for convenience of shipping, and solely to save our friends extra expense in express charges, "ready to nail" for ninety cents, if they wanted a sample.

Now the profit to us is quite small, and the express charges to our friends are heavy. It is much the best for them to make their hives, extractors, tea kettles, etc., at home, and to help them do this all we can, we have gone to the expense of having printed the fullest description, with accurate dimensions of every part. This circular was intended to avoid answering innumerable letters, over and over again, and is always mailed free, and oftentimes postage paid by ourselves, too. Are we not excusable in having "things to sell?" Have those who abuse us always paid for space, too, in the advertising columns, as we have? We know it is spiteful, but we don't care if we ain't "awful good," and so we can't forbear enquiring, did we ever ask anybody for a "dollar" for directions for making the hive we preferred? or what is the same thing, for "*rights*" to make, or use our ideas?

As to the tin corners, they were never mentioned or referred to in the columns of the Journal until some one "lugged" them in and we were obliged to answer their questions. If they don't make their own way, let 'em drop. If we have got any money from anybody's pocket without giving a fair equivalent, we'll hand it back as quick as if 'twas hot, if they will only tell us where to send it.

Please, Mr. Gallup, why don't you say "naughty" things about friend Muth, who writes just below you? He's got "things to sell." Some may think they are a bother, too, for we were once obliged to get over a barrel of honey out of the jars again, after they were nicely labeled, before we could sell it, and now we think it better to bottle it only when it is ordered in that shape. If Mr. Muth can close his bottles with the tin foil caps so that no honey will ooze out in the candying process, we, for one, will thank him most heartily. His goods are sold at a fair profit, and we must confess that we really like folks that have *good* things to sell and are *prompt* and *careful* in their way of doing business.

"Quilts and pillow cases!" Well, if we never told the result of our experiments when we followed that subject "day and night," we will do so now. The quilt must be so soft that it will not crush the bees when pressed down on their backs; must be light, warm, and sufficiently porous to allow ventilation, and must be of such material that the bees will not gnaw through it. We make the cases of the strongest bleached cotton sheeting we can get, and to save waste buy it eighty-four inches wide, at fifty cents per yard. We get the finest quality of cotton wadding, at forty-five cents per pound, of John Bacon, Winchester, Mass., and when the quilts are made exactly the right size, which is no easy matter, they are just as nice as can be. As shrinkage of the quilt makes trouble, the cloth should be washed enough to shrink it before using, if the sample used does shrink, which may easily be tested. Materials cost about fifteen cents; making, five cents; so there's a profit of five cents each in selling them at a "quarter." (The dollar hive can't well be used without quilt.)

Friend Argo, how do you *know* that our opinion is a mistaken one, that ten colonies should give a barrel of surplus the worst season? If the ten colonies are all *powerful early in the season* (and there is no swarming,) and they certainly can be made so, is it not possible for them to store thirty-seven and a half pounds each more than enough to winter, even the poorest season you ever knew? Our locality will certainly do it, and we think the mass of our bee-keepers who have used the extractor will call our claim a very modest one.

We should not invariably leave "four frames of sealed honey" in the middle of the hive *all the time*, because they would occupy valuable room, but after about the fourth of July we would extract from the upper comb only, for there would be, at that season, not so much need of giving the queen room. In case hives are used in which combs are extended horizontally, of course the central combs should be left, after such a date, as different localities seem to designate proper.

In quoting Quinby for the benefit of Alley and Adair, we certainly did the latter some injustice, for he did invite criticism, even if he did afterwards seem to think it proper to retaliate rather recklessly. We had given up trying to get at the "New Idea," but as late developments seem to indicate that it means combs spread out horizontally, we must insist that that isn't new. See former volumes of A. B. J., besides what Argo says, page 211. As to putting empty combs in the centre for the queen to deposit eggs in, some who "over-did" that business in 1868, or earlier, should report.

How about wintering small colonies? Why don't those report who have tried it? It's our impression that it can only be done in very warm cellars, and even then we are afraid it will be like some other great things, viz: "'twon't work with everybody." A report from Mr. Hosmer's neighborhood says *he* has lost sixty colonies this winter. How is it?

Mr. Aldrich, page 207, is almost unkind, but we hope he don't mean to be. Just see, Mr. A., how you have wronged us. *First*, the upper and lower frames are only three-fourths of an inch apart, for we have just measured them this minute. *Second*, we don't advise *sawing the cover off*; that was only for an illustration; yet it can be done, after all, for we have done it. *Third*, sliding the hive forward *does not* open it at the back in *practice*. *Fourth*, we use the "lighting board with hooks," on all our Langstroth form of hives, too, of course. *Fifth*, don't "stand on your head" we implore you, for it's easier to raise the cover and look *inside*, by far. *Sixth*, grease the bevel, and the hive *won't* "stick fast." Your opinions were from reading the articles; ours after having used sixteen hives all summer, before we decided to put them in print.

When we feed meal, much is wasted unless we are careful to carry it all in before a rain; but now we have a shallow trough 60 feet long by 3 inches wide, on the south side of our north high fence, and a slanting board fixed over this just high enough to exclude rain, but admit the sun. We have had no time to use it, yet are all ready. Our colonies are all in fine order, except the one that had dysentery, and they had dwindled so low that we couldn't save them; and the small nuclei we mentioned last month, six lost in all out of 71. So we have 65 now. If we don't get 6½ barrels of honey this season, call us forever

Novice.

Marketing Honey.

J. B. Colton, of Sycamore, Ill., writes: "We have had some trouble in selling our honey at fair prices. We extract all our surplus honey, and of course have to encounter the common prejudice existing in regard to all strained honey. The fact that we sell at figures that would make the manufacture of artificial honey unprofitable, ought to silence grumblers and probably would if we had time to argue the subject on all and they were disposed to listen and reason. We put up most of our honey in half gallon jars and let the groceryman sell for us at one dollar per jar. The jar, if returned, is purchased back at 25 cents, which leaves only 75 cents for half a gallon of honey. We are determined to make a market for our honey at home, and therefore sell at a price all can afford to pay. When the demand exceeds the supply we shall raise our price, but till then we shall sell low and content ourselves with small profits in the hope of making quick sales. Honey has not yet become a common article of food. It is not inquired for at groceries as sugar and tea are, and will not be in some time even though it is sold cheap. Honey dealers in cities are working against the interest of bee-keepers by keeping up the price of honey. Last season we sold our honey in Chicago to the 'exclusive honey dealer' for one shilling per pound, he at the same time retailing it from 30 to 40 cents per pound. It must be evident to all intelligent bee-keepers, that at the rate honey is being produced, the retail price must come down before we can ever sell the large amount that is now yearly put on the market."

Common Sense.

B. C. Anshampaugh, of West Township, Albany Co., N. Y., writes: "I have kept bees the past eight years; have been a careful reader of the American Bee Journal four years; have used different style of hives; have at times had success and at other times have met with disappointments and losses, and have come to the conclusion that a man, to make bee-keeping profitable, has got to be governed by common sense, for I find that the system that one advocates of managing an apiary will not do for another. For example, an expert apiarian keeping bees in a warm or mild climate, by his plan of management may have success every year. Now, let the same man go into the cold northern climate, where the mercury freezes up, and he will find, with the same management, that his bee-keeping will be in part, if not wholly, a failure. Some advise using one style of hive, and others recommend other styles, all claiming that their hive is the best. Some advise upward ventilation and others no ventilation at all. One has his hive ventilated by raising the honey-board, and another has his hive perfectly air-tight, and all claim success.

Now, Mr. Editor, how are young beginners going to make bee-keeping profitable without being governed by common sense? I would say to beginners, first take the American Bee Journal, and read it carefully, and then in your own judgment decide which style of hive to use, and what mode of management to pursue. Do not go to extremes in any case, for fear of draw-backs, but first know that you are right and then go ahead. By the way, I will give you in brief my mode of wintering bees. I have wintered them in the cellar and in the garret; have burried them; have wintered them in a special repository with double walls filled in with saw-dust, with lower and upward ventilation, and have wintered them on their summer stands. I have never wintered bees yet without losing some of them. And now, right here let me say, that I will give any man one hundred dollars who will teach me the art of wintering bees without the loss of a swarm. One more word, and I am done. It is in regard to the loss of bees in the winter of 1872. By my own experience, and what I have seen, I am of the opinion that J. H. Thomas has hit the nail square on the head, and that no one can give a satisfactory reason why so many bees died through the winter."

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[For the American Bee Journal.]

Mr. Hazen on "Novice."

Mr. Editor:—In a former communication, I sent an answer to a question or questions proposed by Mr. A. J. Root, (under the signature "Novice") and in connection with the answer proposed a few questions, requesting an answer from him in return. But, unfortunately, either I was unable to state my questions so clearly as to be understood, or he thought best not to answer them. He says, "We think we never said we would risk one thousand colonies in one apiary." Why not risk them if there is no danger of over-stocking? "But as we shall increase our bees as forage increases, we shall endeavor to make them think the locality over-stocked even if we have to keep one thousand colonies to hold our own." (American Bee Journal, Sept., 1872, page 52.)

I acknowledge some surprise that doubt or difference of opinion should find place on this subject. Our country contains every variety of honey-producing fields, from fields so barren as to render it unprofitable to keep bees at all, to fields producing honey-yielding flowers in great abundance. The capacity of every field can be satisfactorily settled only by judicious experiment and trial.

Everything personal in our periodicals is unpleasant to the parties interested, and to the public, but I can hardly feel justified, without correcting a few mistakes in the communication of Mr. Root, ("Novice,") in your issue of Volume VIII, No. 8. On page 170, he says, "Shaking young bees before the entrance of such hives, from other stocks, *a la* Hazen, will certainly give large results, but could any one honestly claim that such a yield was the product of one hive? The depopulated stocks would probably die from over-stocking."

It is unnecessary to say what charge is implied by these remarks. But I may state that the insinuation is entirely groundless.

The best colony I have ever had was a swarm placed in my hive in 1867. It was one of ten swarms bought of a neighbor, who placed them in my hives, and they stood in his yard until the close of the honey season. This hive has given me two hundred pounds of white honey in one season, one hundred and forty-three in another season, and has done well every season. Last season I had two swarms from it, thinking I would rather have the stock for my apiary than any other I could procure.

I have never, by any means, added to that stock, to my knowledge, one single bee from other stocks, nor has there ever been any addition to them but the natural product of the colony, to my best knowledge and belief. I should add that this honey was all stored in surplus honey boxes, and was all white honey, as no buckwheat of consequence is raised in the vicinity.

What we answer to another sentence is, we ask but $5.00 for a right to make and use the Eureka hive, or $3.00 for a right for the Farmer's hive.

Mr. Root adds, "Mr. Hazen, why will you parade those deceptive figures? "Any bee-keeper can *use all that is valuable in your hive*, and no law gives you *any power* to restrain them, and yet you do not scruple to receive and solicit ten dollars for 'right to make and use,'" etc.

"Will this work never be ended, and will the community never get better informed? Remove the top and two sides from any box hive, and pile honey-boxes against the sides thus exposed, and on top, prepared with guide combs, etc., and you have, when the whole is protected by an outer cover, the Hazen hive complete."

And do not the laws protect the first inventor of such a hive? Was such a hive invented and used before Mr. Hazen invented it? And does its great simplicity and ease of construction depreciate the value of the invention? Does it not rather enhance it?

Mr. Root in another paragraph says, "Why don't we try a Bay State hive? Because it embodies no essentially different principle from Hazen's or Quinby's, and we are trying one of the latter."

If Quinby's and Alley's hives have no essentially different principle from Hazen's, are they not infringements upon his rights, guaranteed to him by the laws of the United States, and does not their use by any one render them amenable for such violation?

There is probably this difference, Quinby's and Alley's hives have only moveable-comb frames. Hazen's Eureka has either moveable frames or bars, as is preferred. With experts, who extract honey or deal in Italian queens, moveable frames may be considered a necessity. But for farmers who keep a few stocks, and would not move their frames, bars are probably better than frames. For my own use, I prefer bars. My best colony that I have referred to is in a hive with bars.

Excuse my rambling communication in answer to Mr. Root, and allow the statement of a few facts, by position or supposition:

1. A colony of bees will consume sixty pounds of honey for breeding and wintering.

2. A colony of non-swarmers will give sixty, one hundred and twenty, two hundred pounds; one-half, two-thirds or more than three-quarters of the honey in the field.

3. Swarmers will give, according to Quinby, $1.00, $2.00, $3.00 worth; at twenty-five cents per pound; four, eight or twelve pounds, that is, one-sixteenth, one-eighth or one-fifth.

4. The non-swarmer consumes in one case one-half, in another one-third, in the other less than one-quarter, the product of the field.

5. The swarmer, in the first case, consumes sixteen pounds, in the second case eight pounds, in the third case six pounds, for one pound given to the proprietor.

6. In the first case, for non-swarmers of hive, $5.00, one swarm, $5.00=$10.00 securing sixty pounds of honey, worth $15.00; once and half the amount of the outlay. In the second case, outlay $10.00; return $30.00; three times the outlay. In

the third case, outlay, $10.00; return, two hundred pounds of honey; value, $50.00; five times the whole amount of the outlay.

7. To secure sixty pounds by the swarmers, would require of the first class fifteen hives and fifteen swarms—hives $1.00 each, swarms $5.00 each=$90.00. To secure one hundred and twenty pounds, requires thirty hives and swarms=$180.00. To secure two hundred pounds, requires fifty hives and swarms=$300.00 To secure these results by the second class of swarmers, would require one-half the amount estimated above, and by the last class, one-third the amount.

Ought we to be satisfied with facilities afforded our laborers for gathering the honey harvest, by which we lose six-sevenths or eight-ninths or sixteen-seventeenths of the product of our fields, when facilities and laborers are available that will give us one-half, two-thirds or three-fourths of the crop at only one-nineteenth or one-eighteenth or one-thirtieth of the expense?

JASPER HAZEN.

Albany, N. Y.

[For the American Bee Journal.]

Benedict's Plan of Pure Fertilization.

Mr. Aaron Benedict gives his plan of securing pure fertilization in the NATIONAL BEE JOURNAL, January number, page 7, and it corresponds so nearly with my experience that he will probably excuse me if I should quote somewhat extensively from his article. He says: "I place in my apiary one or more palace hives, and in those large colonies I place a thoroughly tested queen—one that will duplicate herself every time, or as near as may be," etc. Well, Mr. Editor, I might as well give my own plan as to be quoting his. In one of my large hives I place a good queen—one that I am satisfied to raise either queens or drones from, and I fill this hive with selected comb; comb that has more or less drone comb in every frame, interspersed with worker comb; I now keep this hive well supplied with honey, so that they are never destitute at any time during the season. Now if we have a prolific queen, she will keep up a large stock of bees, and a large quantity of them are drones; and from such a colony, every day that drones can fly, they make a tremendous buzzing; and in such a colony, with plenty of room and abundance of stores, they do not kill off their drones They keep them until quite late in the fall. In fact I am inclined to think they let them die with old age, instead of killing them. Now we raise our queens from another good queen, in our yard, and thus secure a cross. It appears to me that the young queen is more apt to be attracted by the extra noise that this large body of drones make in flying, and I am perfectly well satisfied with the results thus far. This colony, raising such a large amount of drones, will not give a large product of honey; but if our object is gained, whose business is it, so long as we are satisfied? Others can try the plan. There is no patent on it. Mr. Benedict is satisfied that a person could Italianize and secure the pure impregnation of four-fifths of all the queens raised in his yard by one of those large colonies of drones. Try it. The plan can be carried out in a two-story hive. This large drone hive I place near the centre of the yard. The only objection to this is that strangers are sometimes afraid of being stung by those drones, and I always tell them that it is sure death to be stung by a drone. E. GALLUP.

Orchard, Mitchell Co., Iowa.

[For the American Bee Journal.]

Burying Hives in Snow.

We see that Mr. Doolittle recommends burying his bees in snow, and a correspondent asks us to give our opinion through the A. B. J. We do not always have snow enough in this climate, but we have buried them in snow many times in Canada. With upward ventilation they are all right. This winter the snow has been very deep here, and we went to DesMoines and were gone three weeks, and left all our bees buried in snow that were on their summer stands (twenty-two stocks). On the 16th of February there came a warm time, and we shoveled them out and let them fly, and right well they occupied their time. Some of the hives were covered entirely out of sight, yet we were not at all alarmed about them. One large stock that we left the inch hole stopped up by mistake, we found all dead—smothered to death—the rest were all right, strong and numerous. If the hives are properly fixed we would ask no better plan than to have them buried in snow all winter. We have set old box hives near a fence, in Canada, and let the snow drift them entirely under. E. GALLUP.

[For the American Bee Journal.]

The Coming Hive.

The apiarian who reads attentively the various sides to the hive question, as discussed in the JOURNAL, must necessarily become perplexed over the various hives and theories there so positively described.

Every hive, patented or not patented, receives from the owner thereof his unqualified assertion, enforced by vigorous language, that it is the very best hive in existence, and his theory of management perfection itself. Any person having the temerity to contradict these assertions, engenders irritation which through the mighty pen surpasses in virulence the venom of the most aggravated bee-sting.

Now from the many theories so positively advanced, perhaps the coming hive can be roughly outlined by the help of the shadow it casts before it.

Firstly. We must have a large hive to be worked as a swarmer or a non-swarmer, and arranged for obtaining the greatest yield of honey, either box or extracted, or both, as the apiarian desires.

Secondly. The frames will be worked one story,—long, shallow frames in a long hive, with entrances either parallel or horizontal to the combs, as desired for different portions of the honey season. The frames must admit of easy removal, either singly or in a body, and also admit of the use of the division board.

Thirdly. Our bees in northern latitudes must be wintered in a special frost-proof house, because it is more economical and safe. The coming hive is too large and cumbersome and occupies more room in the bee-house than necessary. The hive, therefore, must be left upon the summer stand, while the frames must be so constructed that the portion containing the brood nest can be easily removed and placed safely in the bee-house.

Fourthly. Shall we winter our bees on sugar syrup? If so, in order to save time and labor, we must have a special feeder for each hive. It need not necessarily be a "tea-kettle" or a patent feeder, but simply a tin milk pan (see Novice's Gleanings for February), set either over or under the brood nest.

Now, to obtain such a hive is at present impossible, though every patent hive man will tell you he has it, while but very few have anything that approaches it. A close fitting frame hive accomplishes the thing nearer than any other style. But in saying this, we arouse the ire of our loose frame friends. Now cannot a compromise be made between the two factions of our brotherhood, and a plan adopted that will enable us to work both loose and close fitting frames in the same hive? We could then secure all of the advantages of both.

Now, Mr. Editor, I have no axes to grind in this matter, but as a candid looker-on, give my views of what I would like in a hive. But if I were to work my apiary for box honey, give me the close-fitting frame; for extracted, the loose frame.

SCIENTIFIC.

Hartford, N. Y., Feb. 17, 1873.

[For the American Bee Journal.]

Are We Improving Our Bees by Indiscriminate Importations of Italian Bees?

MR. EDITOR.—At the late meeting of our national society, on the last day, a resolution was adopted, tendering the thanks of the society to certain importers of Italian bees, "*for their efforts to make a large importation of Italian bees.*" I do not speak of it to find fault with the society, for I think those who voted for the resolution were sincere; although I have heard it suggested that the resolution, coming from one who was perhaps interested in the venture, and who is notorious for what he calls "axe-grinding," whenever he can get any one to turn the crank, looked slightly like an advertising dodge. While suspicious persons will, many of them, view it in that light, I wish to draw attention to the question at the head of this article.

That the introduction of the Italian bee has been a great benefit to this country, in more ways than one, no person will deny. The greatest benefit, in my opinion, has been that its novelty has drawn attention to apiculture, and has enlisted many in bee keeping, who otherwise would have paid no attention to it. Another benefit has been that it demonstrated that some bees were better than others, and will result in the best being hunted up. More than that, it has enabled us to investigate many entomological questions, and will enable us to determine many more. Many other benefits might be mentioned, but as they have no relation to my question, I will not take up your space with them.

What is an Italian bee? The shortest answer would be, "A bee imported from Italy;" but that would be unsatisfactory, unless we know that there is a variety or race of bees peculiar to the Italian peninsula, uniform in everything. Is it so? Virgil, who wrote more than 2,000 years ago, devotes one book of his Georgics (the 4th) to the bee, and describes two kinds. one unsightly or "ugly," like a traveler covered with dust, while the other "shines and sparkles like burnished gold." The latter, he says, is the best, "*melior*," more beautiful in form, and in the color of its glittering scales.

It is not necessary to go back to Virgil to show that the bees of Italy are not uniform, in color or temper, for all accounts, even from those breeding and shipping queens to this country, agree with Virgil.

I know it is common to state that there is but one race or variety of bees in Italy, and on account of geographic barriers—the Mediterranean Sea and impassable snow-capped mountains—no bee can pass in or out, but this is not to the point. The New World is said to have been without the honey bee when discovered, but with the Atlantic and Pacific Oceans and the Arctic regions as barriers, we now have quite a number of varieties, yet we cannot tell whence they came, with the exception of the Italian, Egyptian, and some imported to the Pacific coast from Australia.

Some years ago, Mr. Adam Grimm went to Italy in person, and made "*a large importation of bees.*" He tells us that he found the bees of that country varied, and he gave the preference to a dark colored bee, which he imported, and he will tell you now that he prefers it to the light yellow bee that takes the fancy of so many; but he will tell you further, that he cannot sell them, for they are not "the fashion." I obtained some of them through him, and can agree with him.

Rev. H. A. King, who visited Italy in 1871, stated at the meeting of the N. A. B. Society at Indianapolis, "that he examined 200 colonies in the apiary of Von Hruscka, and found two that he pronounced impure. *Hruscka admitted that they might be impure, as he had bought them of other parties.*" Now, Hruscka must have been aware that there were "impure" bees in Italy, or he would not have admitted it.

Mr. Charles Dadant, of Illinois, went in person to make the importations, for which the society tendered its thanks. In a letter written from Milan, after speaking of the bees of Pallanza, Bellinzona, and Como, that did not please him on account of color, he says: "*Sartori says there is some black blood mixed with the Italian on the frontiers of Italy.*" Read the following quotations from Mr. D.'s letters, published in the AMERICAN BEE JOURNAL, October, 1872: "I was offered 100 or 150 queens by Chevally, * * but I would have had queens of all kinds, without guarantee of age or color."

"I saw the bees of Varese, they are no better than those of Mona, of Bellinzona. The keeper of the Royal Palace, who was born and raised in Turin, says *the bees of Piedmont are blacker and crosser* than those of Milan. Count Castralani, who is from the vicinity of Naples, told me also, that the bees of Milan *were more yellow than those of the southern part of the peninsula.* Besides, Sartori, who was born in the Tyrol, says that he does not understand why Uhle, who raises queens for sale, has established himself *in the Tyrol, where the bees are as black and as cross as hybrids.*"

"I am now wondering why Mona wrote in an article in *Le Journal de Fermes*, that all the bees of the Italian Peninsula were pure Italian, *when he ought to have known there was such enormous differences in their color and character.*"

What is an Italian bee? Can any one tell us? If you ask what constitutes a distinct breed of cows, hogs, or even poultry, you can find all the points peculiar to each laid down. As well say all the hogs of Chester county are pure Chester hogs, or all the cattle of Durham are pure short horns, and buy them and breed from them, as to say that all bees from Italy are pure Italian, and import them with a view to improvement. Mr. Dadant found no bees that would please him, except the bright yellow bees around Milan. Mr. Grimm, on the other hand, found the best bees, to his fancy, in the Tyrol, where Sartori says the bees "are as black and as cross as hybrids." Mr. Alley, in Massachusetts, prefers a light yellow; friend Benedict, of Ohio, wants a leather color; one wants queens with dots on their backs, another wants them a clear yellow. Grimm thinks a bee that has not spirit enough to sting pretty fiercely, has not spirit enough to excel in industry. Dadant hunted up the submissive, docile kind.

In view of the evidence I have presented, can any one decide that there is a distinct type or race of the honey bee meant when we speak of Italians? Have the bees of Italy any fixed characteristics? Do they not vary in temperament as well as color? Do they not vary in their propensities for swarming? And, most important of all, do they not vary in productiveness? Can we even separate them into varieties? Are the bees of the Tyrol so uniform in characteristics, that we would be justified in calling them Tyrolese? Are the bees of Milan all alike? Are the dark colored bees of Piedmont distinct from the orange-banded bees of Lombardy?

The limited area in which we find all these variations would prevent the establishment of any distinct variety, and that being the case we must conclude that if there be black blood on the frontiers, as Sartori says; if the bees are black and cross in the Tyrol and Bellinzona and Piedmont, the bees of no part of the peninsula could be kept distinct, for decamping swarms and the wanderings of drones and queens would soon mix from one end of the country to the other.

I am satisfied that there are no benefits to be derived from any further importations of bees from Italy. The first importation of Parsons were the best that I have had, although I have had bees from nearly every importation that has been made; and had no others ever been imported, and we had kept them pure, and improved them by proper selection and breeding only the best, the bee-keepers of the United States would now be in possession of a valuable variety of bees; instead of which, I doubt whether there is an apiary of fifty colonies in the country, that does not show their purity by duplicating the bees of every part of Italy.

Milan is not exceeding fifty miles from Turin, where Mr. D. tells us the bees are blacker and crosser. The Tyrol is no further off, nor is Bellinzona, where Sartori tells Mr. D. there is black blood mixed with the Italians. Lombardy, in which Milan is located, is on the frontier, in the north of Italy. and is surrounded by Piedmont, the Canton Tessin in Switzerland, in which is Bellinzona, and the Tyrol in Austria, where we are told these black bees are. A look at the map will show that it would be impossible to prevent for 2,000 years the intermixing of all the bees of Italy.

Italy has an area of 100,500 square miles, or about 9,000 square miles less than the two states of Illinois and Wisconsin, and if you will take a map of those two states and add to them that part of Michigan that lies between Lake Michigan and Lake Superior, you have a pretty good map of Italy, with about 20,000 square miles more of territory, located between the same parallels of latitude. To complete the map, you have only to call Lake Superior the Alps, Lake Michigan and Indiana the Gulf of Venice, and the Ohio and Mississippi rivers the Mediterranean Sea. Now locate Milan in the northern part of Marathon County, Bellinzona due north on the lake. Turin fifty miles west, the Tyrol fifty or sixty miles north-east, Naples down about Alton and we have the map complete, and can form some idea of the possibility of keeping two races of bees from mingling for 2,000 years, particularly if left to themselves, without any care being taken to prevent it.

Now don't understand me as wishing to injure the reputation of the imported bees. I am only trying to answer the question at the head of this paper, and I think I have shown that no further good can be accomplished by continuing the indiscriminate importation of them. Let us improve what we have, and by a judicious selection and breeding, establish varieties or breeds that will better answer our purpose. Here is a wide field open to us, and it is the only direction in which I think we can look for improvement.

We have, in different parts of the country, bees exhibiting as variant characteristics as do the bees in Italy. The grey, the yellow, and the brown bees of the south, with the large and small black bees that are common to the whole country, have had no attention paid to them. Many of them are as gentle as any Italians. Have any experiments been made to test their value? If so, I have not heard of it.

As this article is already of sufficient length, I will, with your permission, continue it next month, and make some suggestions on the subject of improving the bees, with a view to establishing distinct breeds. D. L. Adair.

Hawesville, Ky.

[For the American Bee Journal.]

A New Contributor.

Dear Journal:—Will you admit another contributor to your columns? For several months I have thought I would write and let my fellow bee-keepers know that there are some interested in bee culture and the American Bee Journal in the northwest corner of Ohio. I have a small apiary, and am using the Langstroth hive exclusively. Have tried several others, but am satisfied that the Langstroth is the best for frequent manipulation.

I am glad to say that I am not the only one in this vicinity keeping bees on the improved system, but have a brother bee-keeper within a few miles, who also makes it a business, and he, too, uses the Langstroth hive. We are doing all we can to introduce it, and consider that in so doing we are doing a *real good* to the community; for when a man is the means of saving thousands of pounds of honey from going to waste, is he not a blessing to the place? And from the manner in which my bees brought in honey last year, and comparing it with what my neighbors obtained with box hives, and their reports of past seasons, I am convinced that thousands of pounds of honey have gone to waste every year. I am also convinced that the Italians are far superior to the black bees. I am satisfied of this from last year's experience, for I made it a rule to weigh the honey produced by each colony separately, and I found that during the first two weeks of honey gathering eleven stocks of Italians produced three hundred and fourteen (314) pounds, and seventeen stocks of black bees only produced fifteen (15) pounds. Now there is a great disparity between those two figures. In one of my colonies, I have a little Egyptian blood, and, Mr. Editor, I will endorse what has been said about their stinging propensities, but yet do not wish to lose them, for they are business on honey gathering, as well as in stinging.

I don't know how I should feel in regard to a whole apiary of them; but I tell you what it is, Mr. Editor, a few of them in an apiary are as good as a watch-dog or two. I have not been troubled much by having honey taken or borrowed, for I don't tell everybody which are the Egyptians, only that I have some, and that they are apt to sting if any one comes in close proximity to their habitation. Not that I have much reason to suspect that such a thing might occur if I had not those little pets, but coming into a strange place, it is well to be careful and on guard.

I use an extractor, not a patented one, but one that I believe has no superior as yet; a stationary can, such as Novice talks about, twenty-five inches in diameter, containing a galvanized wire-cloth frame, capable of holding six, four, three, or two frames of comb, and yet maintain its balance. One great advantage is, that the top is all open, the gearing working from the bottom. I have no doubt that many of the bee fraternity have had their patience tried with having new comb, heavy with honey, break down in the extractor. The bar commonly used across the top for the gearing to rest upon, is just where one does not want it. Another improvement that I have is a large strainer, the size of the can, fitting in the bottom, so that when I open the faucet to draw off the honey, it comes out perfectly clear. The tin will hold 50 pounds, or over, below the strainer. I have spoken of this because I think that whenever any bee-keeper has something suggested to him by his own experience, it is his duty to let the fraternity know it. I am not an old, experienced bee-keeper, having had but four years experience, but one finds out more by working in the apiary one season, than by two years of studying theories.

I like tan bark around my hives in preference to sawdust, for it will not take fire if a spark should accidentally fall on it, and I presume that rotten wood is more generally used than anything else.

I was very much surprised to read in the January number of the JOURNAL that Mrs. Tupper made the statement that "the extractor should never be used on comb that had brood in it, in any stage, as from careful experiment she had ascertained that in every instance the brood, even after it was capped over, was destroyed." Now, last summer I had not a frame of brood in my apiary but passed through the ordeal of melextracting *every* week during the extracting season, and I noticed that some of the brood was thrown to the mouth of the cells, from turning too rapidly, and could not escape on account of the wirecloth obstructing the entrance, and in no case was the brood thus displaced destroyed, which convinced me that the bees removed them back.

AVIS.

[For the American Bee Journal.]

Dark-Colored Queens.

In the A. B. J. for January, page 177, Mr. MacGaw complains of the color of the queen he has received from my last importation. While in Italy, I accepted all the tolerably good looking queens, if they were very prolific. The boxes containing the brightest were carefully marked, for I know the prejudices of the majority of queen-breeders against the dark-colored queens.

I intended to preserve, for Mrs. E. S. Tupper and for myself, all the dark queens, for we both know very well that the light-colored queens are less prolific and less vigorous than the dark. In so doing, we were sure to satisfy everybody—those who preferred the color rather than the quality, and those who, like ourselves, preferred the quality rather than the color.

But on my arrival at New York, three-fourths of our queens were dead, and those remaining alive, needed immediate care to rescue them. In the hurry, the queens having been changed of boxes, it was impossible to select the lightest for our patrons. I selected but one for myself, because she was nearly, if not quite, black.

I will return to Italy this summer, and if Mr. MacGaw will send us another order, I will choose for him one of the lightest-colored queens I will be able to find, unless the dark-colored queen that he has received prove to be so good that he changes his mind as to the desirable color for the queens.

As I have already said in my articles entitled "Travel in Italy," and which are being published in the bee journals, *there is not a queen in Italy which will duplicate herself every time.* Consequently the color of the queen is a bad test of purity. Furthermore, it is a means which would tend to the degeneracy of the race; for the light queens have less vigor and less fecundity than the dark.

Some two or three years ago, one of the best queen-breeders of this country exchanged queens with me. I sent him two queens, which he has, no doubt, found too dark; for he is, or was at that epoch, quite an amateur of light-colored queens. He sent me two very yellow queens. One was sick on her arrival, and died two days after having been introduced; the other was so little prolific, that I superseded her the next season. I am in the habit of replacing any queen who lays less than 1,800 eggs per day in the breeding season. I have had some dealings with this breeder; he complained several times of the color of the queens he has received from me, but he lauded their prolificness every time.

I have had three queens whose eggs did not hatch; and every time I noticed that these queens were very light colored.

As my business is less to sell queens than to produce honey, I always give the preference to dark-colored queens. If the bands of their progeny are leather-colored, instead of yellow, it is of no matter, for I know that these workers will fill their hives and boxes, if there is some honey in the flowers.

How is it that a light-colored queen can produce dark daughters, and *vice versa?* I don't know. Perhaps the color or the quality of the honey, or of the pollen, causes it. Perhaps the weather was cold or rainy while the queen was yet a young grub. Perhaps the wind blew from the north or from the west. Perhaps electricity plays its part in that, as well as in other things. I care not. But of two queens, one very light yellow, the other very dark, whose worker-bees are equally well marked, I would not hesitate to choose the darkest.

Ch. Dadant.

Hamilton, Ill., Feb. 11, 1873.

P. S.—In order that the above article may be well understood, I will add that in Lombardy the queens are generally leather-colored; the dark and the yellow are exceptions. I have accepted all the light-colored because they answer well to the desire of our queen-breeders; but of the dark, I have accepted only the most prolific. If I had chosen all the queens for myself, I would have discarded all the light-colored. Ch. D.

Feeding Bees.

The following article is from the *Louisville Weekly Ledger* of March 12th. From the style, use of the term "Melipult," and other circumstances, we conclude that it is from the pen of Gen. D. L. Adair. It will repay attentive perusal, especially on the part of those who are comparatively inexperienced in bee-culture:

No bee-keeper can have the best success that does not understand the necessity for timely feeding. Few resort to it at all, while very few are even aware of its importance. Our standard authors either pass over the subject in a careless way, or condemn it altogether.

Mr. Hosmer, whose wonderful success has made everybody stare with wonder and incredulity, stated, at Indianapolis, before the North American Bee-Keepers' Society, that "The whole theory was to keep the bees feeding all the time when they can get no honey in the fields, regardless of the time of year."

We propose briefly to notice the conditions under which it is either necessary or beneficial to feed bees.

1. In the spring of the year the queen will not breed much, until honey is being gathered rapidly by the bees, so that by the time the colony becomes populous enough to gather much honey a considerable part of the best of the honey season is past, and frequently, in some localities, all of it. By commencing as soon as the bees can fly out, and continuing to feed until the flowers yield honey, a month's time may be gained, and the surplus honey increased four-fold. If once commenced it must be continued, and enough food given to feed the growing brood; for, to stop when the comb is filled with brood and eggs would result in starvation and death. The feeding should not be too abundant, as the bees will fill the comb cells, and leave the queen no room to lay; and, besides, it would be an unnecessary waste. A few table-spoonsful, at first, will do; but, as the brood increases, the quantity should be increased to a half pint or more each day.

2. It frequently happens in the spring, after the honey harvest begins and the hive is full of brood in all stages, that a sudden change of weather cuts off the supply, and even confines the bees to the hive, and unless a supply of food is furnished, the queen will cease to lay, and perhaps much of the brood perish. At such a time feeding will be profitable.

3. There is no season of the year in which there are so many colonies of bees die out as in the early spring, before the flowers yield honey, the bees having exhausted all their winter stores, die of starvation, or in their extremities swarm out and either go off, or join other colonies that have a supply—it may be only to hasten the destruction of their hospitable neighbors. Even if a regular system of feeding is not adopted, the bee-keeper should examine all of his stocks at the opening of spring, and feed those needing it.

4. In the fall of the year a good bee-keeper will strengthen all his weak colonies by liberal feeding. In this instance the food should be given as fast as the bees will take it, so that it may be capped over before winter, otherwise it may ferment and produce disease.

5. Where supers or boxes are used the bees will not deposit honey in them until the brood chamber is filled. Sugar, syrup, or dark honey may be fed to them to do this with, so that the nice clover-honey may be deposited in the boxes.

6. At the end of the honey season some boxes will be not quite full. Honey may be fed to the bees to finish them out.

7. When bees are afflicted with dysentery or cholera, or other disease induced by bad honey, or infection in it, all of their stores should be taken from them, empty comb given them, and then they should be supplied with pure sugar syrup. Or if no empty comb can be procured the infected comb should be emptied of its honey with the Melipult, and after being thoroughly fumigated with the smoke of burning sulphur, exposed to the air for a few hours and returned to the hive, and the syrup fed to the bees to be stored in it.

8. When the nucleus system of swarming is resorted to, (that is setting up small colonies and building them up,) it cannot be depended upon with certainty, unless any deficiency or cessation of natural forage is made up by feeding.

9. The queen-breeder cannot pursue his business with much success, except while honey is abundant, unless he resorts to timely feeding, and when it is

necessary to shut up or confine the bees, even if they have honey in the comb, it is best to give them some food, as it keeps them better satisfied, and enables them to go on with their work, and if a queen is present there will be no cessation of ovipositing.

The natural food of bees in mature state is saccharine juices or secretions of plants known as sugar, ordinarily grape or fruit sugar, as they are the most accessible; but as they are never in nature free from other secretions of the plants, they necessarily vary. Cane sugar generally is purer and furnishes the best food. It may be stated as an ascertained fact that the purer the sugar, and the freer it is from any foreign substance, the better it is suited to the sustenance of the bees. Pure white sugar, dissolved in water with a little heat, so as to be of the consistency of their honey, is the best food that can be given. A 1 coffee sugar will answer every purpose. The lower grades of brown sugar will do for feeding, if consumed in the summer, but for winter use it should be pure. Every addition of drugs, cream of tartar, or any other, slippery elm, sassafras buds, or anything except sugar, as frequently suggested, is unnecessary, if not injurious.

Brood can not be reared without farina. The natural supply is found in the pollen of flowers, and when gathered by the bees is known as bee-bread. But any of the farinaceous grains will furnish it. Dzierzon first noticed that bees would substitute rye meal for the pollen of flowers. Since which the meal and flour of oats, wheat, barley and Indian corn have been successfully substituted for the natural pollen, and found to answer the same purpose.

[For the American Bee Journal.]

A Trio of Topics.

CHALLENGE ACCEPTED.

Mr. Editor:—Some time ago, Novice challenged any one that he could extract one hundred pounds of honey in less time than any one could take off that much in boxes. From his article in the February number, I would infer that this challenge is still open. If so, I would accept it, and of course claim the right to choose the weapons.

So, then, some day in July next, we will take off (at least) one hundred pounds of box honey (net weight), weigh it, and store it in our honey room. Two or three responsible judges shall witness and time the operation. Would expect the same procedure from Novice. We take it for granted that Novice would prefer to choose his own day for the operation. So do we. Now then, Novice, take off your coat and roll up your sleeves, for we shall do our best.

OVERSTOCKING.

We fear that Novice's head is not quite clear on this subject yet, notwithstanding his rapid strides in bee-culture. In the February number, he refers to Grimm's experience, and what he recommends. Is it not within but a few years, that Grimm got righted on this point, and is it not within this time that Mr. Grimm realized his best results in bee-keeping? I think his articles in past volumes of the American Bee Journal will prove the same.

I have read carefully, perhaps nearly all that has been written in this country on overstocking. With this and my own experience I have come to the following conclusion:

If Novice, Grimm, and all of us, when we were yet novices, would have simply accepted Mr. M. Quinby's teachings on overstocking (we refer to "Mysteries," "Bee Pasturage," "How many Stocks may be Kept,") many of us would have done much better; say by dividing our bees in small apiaries of about fifty in one place. I am satisfied that less than this number is best in this locality. We believe that A. Grimm could have done much better long ago had he kept fewer stocks in one place. Are we not right, Mr. Grimm?

BOX HONEY.

We shall have something to say hereafter on this point. We think we can show Novice, and the rest of mankind, that we can make as much out of our bees with box honey, as can be made with extracted honey. R. B. Oldt.

New Berlin, Union Co., Pa., Feb. 15, 1873.

Caution.

Editor American Bee Journal:—Being one of the sufferers from the dishonesty of Prof. Chevalley, of Switzerland, I would caution my fellow unfortunates who may receive a letter from him regarding the freight, to act cautiously, and invest no more money until they are satisfied they will receive queens therefor. I feel convinced it is only another way of getting a small remittance from those who are anxious to obtain a return from what I think will be found a permanent investment.

E. J. Peck.

Linden, N. J., March 15, 1873.

[For the American Bee Journal.]

Wintering Bees at the South---Merits and Demerits of the Italian Bee.

Mr. Editor:—As there seems to be an erroneous idea prevalent among our bee men, that the winters of the South are the best for the successful wintering of bees, I wish to give some account of the range of our thermometer this winter.

Up to the first of December, the lowest we had the thermometer was 16° F., and that was on the twenty-ninth of November, at daybreak. Until the ninth of December, 48° was the lowest, at noon; the tenth down to 15°; eleventh, 18°; twelfth, 16°: fourteenth, 24°; fifteenth, 44°, and not down to freezing during the day until the twenty-second, when it dropped to 3°, and was intensely cold and windy till the twenty-ninth, when it ranged among the forties till the fifth of January, with fine weather. The tenth of January, 10°; fifteenth, 64°; nineteenth, 9°; twelfth, 46°. A change of forty degrees in twenty-four hours is not unusual with us.

The effect on weak stocks is disastrous. The mild, inviting, sunshiny morning brings the bees out from their cluster, and a sudden change of the wind from the north will chill them to death before they can "snug up" again. Strong stocks suffer in a corresponding ratio: Each sudden change kills off more or less of the bees, until the colony is reduced by spring to less than "Hosmer's quart."

Special depositories for winter, here, are out of the question; as we have so much warm weather that it is impossible to keep the bees quiet enough to winter well.

As the convention of '72 unanimously (?) decided that the Italian bee is, on the whole, the best kind for general use; it may be too presumptious for me to gainsay it, and as I am a queen-breeder, the "dear public" may not want to hear my opinion; but as I promise not to give my name and address, (an original method, ingeniously resorted to by enterprising queen-sellers to obtain gratuitous advertising,) perhaps I will be tolerated.

I have tried the Italian bees for a number of years, and am satisfied that they are more desirable than the black bees, in an apiary conducted on the improved plan, simply because the Italians are more easily handled, (not that they sting less than the blacks,) but, to illustrate, you open a hive of black bees, lift out a frame, and the bees act like a flock of frightened sheep, all crowd together in a mass, and hang pendant from the bottom of the frame until a bunch drops to the ground, when all the young bees begin to climb, some, the legs of the hive, and some the legs of the operator. Now I love bees, on principle; but I submit it to any unbiased man, not a queen-breeder, if it is not trying to one's Christianity to try to hold a frame with both hands, while a whole regiment of bees are "marching on" inside his *breeches?*

Now try the same thing with an Italian stock, and when you take your frame out, the bees stay on it, and if the queen is on that frame, she will continue her duties as if nothing had happened. Hence the Italian queen is much more easily found than the black queen. Here my eulogy of the Italian bee ends.

Everything else being equal, they are no better honey-gatherers, no more peaceable or prolific, and winter no better than the black bees. They will find honey when the black bees are idle, say their votaries; now, when they do this from natural sources, it is an advantage; but when they roam about seeking what weak stock they may devour, it is a decided disadvantage.

I sometimes form nuclei from black bees brought from a distance, and when the dry season comes on these honest Italians, that never rob, keep two men and a boy busy, trying to save my nuclei from total annihilation.

Honestly, I advise only those who are so situated that they can keep their bees far enough from their neighbors to prevent their mixing, to invest in the Italians, as it is utter folly for a farmer who keeps bees on the "let 'em alone" policy, to buy an Italian queen and expect in a short time to have all his colonies pure Italians. Una Apis.

Middle Tennessee.

[For The American Bee Journal.]

Wires to Fasten Combs in Frames.

Take No. 17 steel wire, straighten, and with a pair of wire nippers cut into various suitable lengths, then with a pair of pliers bend one end over to the length of about a quarter of an inch; use a brad-awl that will let the wires in moderately tight, as soon as the bees have fastened the combs, then remove the wires by taking hold of the bent and projecting ends with a pair of pinchers, giving a little rotary motion, and pull out. These wires can be used many times over. I have used mine two or three seasons, and like them very much.

Henry Crist.

Lake, Stark Co., Ohio, Feb. 15, 1873.

[For the American Bee Journal.]

Artificial Fertilization.

I accept of W. H. Furman's offer of $100 for each queen that he can see fertilized, if he will give me security that I shall have the money, and that he will take not less than ten queens.

As to R. M. Argo's offer, it is like a good many things, easier to do than to tell how to do it. Yet, if I knew his address, I would do the best I could to tell him how. I have no patent on the thing, or manner of doing it. I discovered it by having a choice Italian queen with wings all shriveled up, so that she could not fly, nor ever did. She had raised a large lot of drones, and there was a large quantity of drone cell capped over. She must have been at least one month old before she became fertilized. I wished to save her if I could fertilize her, and succeeded.

I have succeeded several times since, as Mr. Burch states. Mr. Argo has a perfect right to be a "doubting Thomas," and he may remain so as long as he wishes, still it will not alter the facts. I will say here that I only apply the remedy when necessary; but when it becomes so, I had rather lose a drone than a queen. My bees came through the winter all right, but I have lost two colonies since I carried them out. I had fifty-two stands at home.

The winter has been extremely cold, and steady cold; four full months of sleighing, and a hard winter for bees on their summer stands.

Respectfully yours,
Arad C. Balch.

Kalamazoo, Mich., March 20, 1873.

[Mr. Argo's address is Lowell, Garrard Co., Ky. —Ed. A. B. J.]

[For the American Bee Journal.]

Sundry Items.

"The theory that queens only mate with the drone once isn't always correct." Correspondent giving his reasons why. Page 184, February number. In the spring of 1866, while raising queens, I had an observing hive in my room, which I used as a nucleus for queens. After the queen hatched I kept close watch and saw her "leave the hive and return," and supposing she had mated with a drone, I introduced her to a full stock next day, without waiting for her to commence laying, as the stock had been without a queen for some time, and it suited me better to introduce her at once. About one o'clock next day, after introducing, I noticed a commotion in front of the hive, and at once surmised the reason, and soon saw the queen leave the hive. After waiting some time for her return, I supposed her lost, but after thinking the matter over, concluded that I would go and examine the observing hive again, and sure enough there I found her with indubitable signs of mating with a drone. She was then returned to full stock. Now this was conclusive evidence to me that I was mistaken about her having been impregnated at first flight.

The March number is at hand, and full of good things as usual. I have examined our bees this week, removing straw from caps, replacing honey-boards, and cleaning out hives. I found four stocks dead and one is queenless. "Shallow frames and single walls" will explain the *cause* of loss of three colonies, the other, a weak swarm in rickety box, I did not expect to bring over after the thermometer stood sixteen degrees below zero. Of the three above referred to, there was plenty of honey in the hives to bring them over, if it had only been in the *right place*, viz: over the cluster, instead of one side. My article in February number, page 178, had exclusive reference to wintering bees on the summer stand. Several years ago I was of the same opinion as "Novice" on "double walls," but the experience of the past three years leads me to adopt "deep frames and double walls," for out-door wintering; indeed I have been entirely successful during the past two severe winters *only* where the above conditions were secured.

Now if Novice *don't skip* this article, I would just say, don't send another circular with the "thousand and one" necessary articles, as I received the one you sent me not many days after you read my article, or if, on the other hand, Mr. Editor, you think it best that "every candid and serious bee-keeper" should not read this article, please consign it to the waste basket, thereby favoring me, as well as one who thinks he knows it all.

J. E. Moore.

Rochester, Pa., March 14, 1873.

[For the American Bee Journal.]

Good Way to Hive a Swarm of Bees.

As I have not seen any mode or plan of hiving a swarm of bees, similar to mine, in the journals, will state the way I have done it for three years past, hoping it will give others (that depend on natural swarming) as much satisfaction as it has me.

First, the hive should be on the stand where it is to remain, with the front edge raised one-half inch to give the bees a good chance to enter. A piece of wide board, or something similar, should be placed in front of the hive, in such a way as to give the bees no trouble in reaching the hive. Have two or three light poles or sticks, of different lengths, to enable you to reach the place where the bees commence to cluster, let it be high or low. I use an old broad brimmed, black wool hat hung on the pole for the bees to cluster on—anything that will answer the purpose will do.

Now you are ready. Look! the bees are swarming. Wait until they choose a place to cluster. Soon they are clustering on a limb; see how fast they are "going for it." Now hold the hat close to the limb and shake it, (the limb,) and you will soon have the bees on the hat. Now walk off with your bees to the hive, shake off a few in front of it; they will soon commence to march in, when the rest can be shaken off. If you see another swarm issuing before they get quiet, cover them with a sheet to keep the other swarm from uniting with them, unless you want to unite them. I find it easier to make the bees cluster the second time if I am not on hand before they all cluster, than to hive them in the usual way, by dislodging a few bees at first until I get a few on the hat, when the rest can be shaken off the limb.

There are several advantages in clustering in this way: You can hive them much quicker and easier (unless the limb is cut off, which might injure the tree, if a valuable one); there is not so much danger of two or more swarms uniting where many bees are kept; there is no danger of killing the queen or any bees, and you are not so liable to get stung, which is not very pleasant for any one.

Phineas Loucks.

Ontagamie, Wis.

[For the American Bee Journal.]

Bee Stings.

Our worthy editor of the American Bee Journal* says in a recent issue that he has no faith in the virtue of any remedy for bee stings. In this, as the term is generally used, I coincide with him; but there is and old maxim in philosophy, and a very true one it is, that if you can remove the cause the effect will cease; and it follows that if you can remove the poison from a sting you will not be much troubled by the consequences. This I think you can do. I always advise applying the barrel of a large sized key to the sting and pressing it firmly for a few seconds. You will find, upon withdrawing the key, that a small drop of a clear liquid has issued from the wound. If you would like to know whether this is poison or not, smell it or taste it and you will soon find out. The key should be applied until no poison follows its application. I would add that, like most physicians, I seldom use my own prescriptions. It is only when I get a reminder on the face, and particularly on the forehead, that I think it worth while to use a key, and then it is only on account of the swelling. If I were to get a sting over the eye in the afternoon, I would expect to rise the next morning with one or both eyes closed. By applying the key the swelling is next to nothing.

Rusticus.

Bucks Cy., Pa.

[For the American Bee Journal.]

Questions and Answers.

I bespeak your indulgence while I ask a few questions. I will not, like Mr. Freeman "call Gallup up in particular," but would like to have any one that knows positively answer. 1st. Do (perfect) queens ever kill one another by stinging? If so, how can I manage them to witness the operation? 2d. Is the little dark spot or speck in the centre of the first yellow band of the Italian workers positive evidence of impurity? If so, where can the "Simon Pure" be obtained? 3d. How can I manage to extract honey from brood combs, with the larvæ but three days old, without extracting also the food which is prepared for them and deposited in the cells? This is a very important thing to know. As the food prepared for the larvæ tastes very strong of pollen, it imparts much of its flavor to the honey and very much injures its quality. If somebody does not answer this question, I shall take it for granted that it is improper to extract from the brooding apartment of the hive, unless we are very careful to reject such combs as have very young larvæ in them. But I think I have asked questions enough for once, and will try my hand at answering a few. Commencing with question number one in the question department of the February number A. B. J., I would answer that bees hatched late in the fall, and that have taken no flight before setting away for the winter, will be found to be the last to perish after commencing to fly in the spring. Question number two: If the extracted honey is thoroughly mixed it will not separate, but different kinds of honey, if poured into a barrel, separate, with the lightest on top, and will remain partially separate, if remaining quiet; but if you empty the heaviest honey on the top, they will be pretty thoroughly mixed without further trouble. Question number four: It will always pay to double stocks in the spring, when there are not bees enough in either one to mature brood rapidly. There is one more question that has frequently been asked, viz: How to cure bees of dysentery when attacked with it in the cellar? One says, give more ventilation, and another says, less, and a third says, to take their honey away and give A 1 coffee sugar; though this last should more properly be given as a preventive. My way to cure them is, first, to fill my stove full of dry maple wood, sufficient to heat my kitchen to about 100° Far., and then bring my diseased swarm from the cellar and place them where they will warm up as quickly and thoroughly as possible. Of course the room must be dark or the bees confined to their hive. When they are thoroughly warmed up, I set them back in the cellar and find them as quiet as when first put away in the fall, with not an indication of dysentery left.

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* It is not the editor of the Journal, but Novice, who expresses this view. We must not be held as endorsing all that we insert in these columns.—Ed.

J. E. Benjamin.

Rockford, Iowa.

[For the American Bee Journal.]

The First Recorded Demonstration of True Parthenogenesis.

Mr. Editor.—In the very interesting article in your March number, translated from the German of Dr. Kornhuber, occurs the following statement:

"The first direct proof of the existence of real parthenogenesis was furnished by Leuckhart, in the *Bienenzeitung*, 1855, p. 127, where he communicates the results of the microscopic examination of a queen bee sent him by Baron Berlepsch. This queen had been hatched in September, 1854, a time when no drones existed. The next spring she had filled 1,500 cells with male progeny. On dissection, it became evident that the queen had not been impregnated. She was a normally formed female, with seed pouch and eggs; but instead of spermatic filaments, the former contained a perfectly clear liquid, devoid of granules or cells, just as in the pupæ of queen."

In the October, 1866, number of the American Bee Journal, p. 74, in an article, "On the impregnation of the Eggs of the Queen Bee," I have stated facts which prove that the *first demonstration* of true parthenogenesis was made, not in Germany, by Prof. Leuckhart, but in this country, by Prof. Joseph Leidy, of Philadelphia. Copies of this article were sent to the bee journals of Germany, but as the facts there stated were not known by Dr. Kornhuber, and probably by few abroad, I give them again to the public, and as the Am. B. J. has now a much wider circulation in Europe than it had in 1866, they will doubtless obtain due recognition.

On page forty-one of the first edition of my work on "The Hive and The Honey Bee," published by Hopkins and Bridgman, Northampton, Mass., in May, 1853, occurs the following statement:

"In the autumn of 1852, my assistant found in one of my hives a young queen, the whole of whose progeny were drones. * * This queen had laid a number of eggs in one of the combs, and the young bees from some of them were just emerging from the cells. * * * As there were none but worker cells in the hive, they were reared in them, and not having space for full development, they were dwarfed in size, although the bees, in order to give them more room, had pieced out the cells so as to make them larger than usual! Size excepted, they appeared as perfect as any other drones. * * * The queen was removed from the hive and carefully examined. Her wings, although they appeared to be perfect, were so paralyzed that she could not fly. It seemed probable, therefore, that she had never been able to leave the hive for impregnation. To settle the question beyond the possibility of doubt, I submitted this queen to Dr. Joseph Leidy for microscopic examination. The following is an extract from his report: 'The ovaries were filled with eggs. The poison sac was full of fluid. * * * The spermatheca was distended with a perfectly colorless, transparent, viscid liquid, *without a trace of spermatozoa.*'

"This examination seems perfectly to sustain the theory of Dzierzon, and to demonstrate that queens do not need to be impregnated in order to lay the eggs of males."

L. L. Langstroth.

Oxford, Ohio, March, 1873.

[For the American Bee Journal.]

Bee Disease.

It is a well established fact, with me at least, that weak colonies which have been confined to the hives for a length of time, and become chilled until they are dormant, if they revive and the atmosphere still continues too cold for them to fly out and void their accumulated fœces, will have what is termed dysentery, and will soon perish if not attended to; when, if the weather had been so they could have flown a few days before chilling, it would seemingly have injured them but little. I have frequently had weak, destitute colonies become chilled in the spring, after they had several days to fly. On taking them into a warm room, bringing them to and feeding, allowing them to fly, they would appear as well as ever. Feeding bees with liquid food in cold weather, that have been confined to the hive for some time, unless they can fly at the time of feeding, will be very apt to give them the dysentery, (if they have not been chilled.) All such bees as have to be fed in cold weather, should be taken into a small room, with but one window, place the entrance of the hive level with the window sill, so that the bees can return to the hive, which most will by letting the room gradually cool. If the combs are much soiled, give them other clean ones instead. By observing the above hints, I have saved many colonies that otherwise would have perished. In respect to the disease among bees called "bee disease," or "cholera," I will say that I consider it altogether different from the disease or dysentery I have mentioned. In the latter part of the winter of 1868-69, at the time of the great mortality of bees in Indiana, Kentucky, and parts of Ohio, I was at Plainfield, Indiana. On learning that bees were dying in that locality, I called on several bee-keepers in hopes I could ascertain the cause of the malady. They informed me that the bees had entirely decamped from hives containing plenty of honey in the fall, before cold weather set in, others had dwindled away until there were so few bees left, that as soon as severe cold set in they perished. In this latter case, the bees generally soiled their combs, showing proof of dysentery. but where all left before cold weather there were no signs of dysentery, the combs were left bright and clean.

Strange as it may seem, whilst examining those hives and bees at that time, I found a few colonies apparently all right. They appeared to have plenty of bees, and I could detect nothing wrong about them, either by looks or smell, whilst at the same time bees had died, in some instances both sides of them, on the same bench. I came to the conclusion at that time that it was a disease of the bees themselves, and from the information since received I have more fully become convinced that my conclusions were correct. I believe it to be a disease epidemic, if not actually contagious in its nature, and peculiar to the honey bees themselves. Why should not the bees be subject to disease as well as domestic animals or poultry? One farmer's stock or poultry die or become diseased, while another's near by are entirely free from disease. I believe it to be the same with bees. Bees in one district or apiary may be dying with disease, while others near by are apparently free from disease. I can recollect, when I was a small boy, of my father losing nearly all his bees in one winter. I remember hearing him say that he could not contrive what ailed them, as there was plenty of honey in the hives. I have no doubt but it was the same disease that killed my father's bees, as that which has destroyed so many bees the past three or four years in different sections of the country. In conclusion I will say that I do not believe this disease originates from too much (or impure honey,) or from the want of young bees to winter, as some believe. I have had colonies become queenless at swarming-time, and yet enough bees would live over to the following spring to make good colonies by giving them a fertile queen. My experience is, that young bees die as rapidly in winter as old ones.

To prevent disease, keep a little fine salt scattered about the bottom and entrance of the hive, from early spring until late in the fall. If bees show signs of disease or dysentery, I know of no better way to do than to let them have a good fly, place them in a clean hive, and feed either good honey or syrup made of clarified sugar. If they lack pollen, sprinkle a little flour on the bees.

AARON BENEDICT.

Bennington, Ohio.

[For the American Bee Journal.]

Transferring.

My plan is about like Sessaye's, page 275, vol. VII, except that the frame, with two or three strips about three-sixteenths wide and one-sixteenth thick, is laid flat on a transferring board, and when filled with comb, large or small pieces, enough strips are put on to hold the comb and fastened with three or four ounce tacks, driven in with a hammer.

The thought occurs to me since reading Sessaye's careful way, that the jar caused by driving the tacks caused the death of the young bees spoken of on page 47, vol. VII.

A. W. DAVIS.

Walworth, Wis.

P. S.—I wish to raise queens and Italianize my stock of black bees after the white clover honey harvest, (as I shall not be at home to attend to it before the middle of July.) I, and doubtless many others, would be much obliged if Mr. Alley would inform us how to get drone eggs deposited by a young queen, after the honey harvest, as mentioned on page 100, vol. VII.

[For the American Bee Journal.]

Information Wanted.

Some seven or eight years since I saw a communication to N. Y. Farmers' Club, about what the writer (a York State farmer,) called Merino Buckwheat. He had got sixty-two bushels per acre, good for feeding, but flour from it was a little bitter. One peculiarity was that hot weather did not affect the yield as it does the common variety. Another, the blossoms are so near the color of stalk and leaf that they do not make much show. If bees gather honey from it, as they do the other variety, will it not be very valuable for midsummer bee pasture and crop? Who knows? Please report.

A. W. DAVIS.

Walworth, Wis.

[For the American Bee Journal.]

A Complaint.

MR. EDITOR.—I do not believe in having any rights invaded without entering a protest. I paid two dollars for the AMERICAN BEE JOURNAL, with the expectation of having as good a journal as could be made for that money. I paid it cheerfully, and if more had been asked, I should have paid more. I think it has been worth more than I paid; indeed I would not do without it for double the price; but still I expected the JOURNAL just as good as it could be, and I know it isn't, and I'll tell you how I know. An editor, to do his best, should have a clear head, untroubled by petty annoyances, with a cheerful atmosphere surrounding him. Now, from hints I get in the JOURNAL, I am sure that, in one respect, its editor is not so well situated as he might be, and consequently does not do as good work as he might. I refer to the annoyance caused by lack of promptness in payment of subscriptions. I believe that I have a right to ask that my paper shall not be injured by the editor's allowing others to have theirs without paying promptly for them. I think, in most cases, if the Journal ceased to make its visits the moment the payment expired, another two dollars would be very speedily forthcoming. C. C. Miller, M. D.

Cincinnati, O.

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[For the American Bee Journal.]

Bee Keeping in Iowa.

Dear Journal.—I am not in the habit of writing for "the papers," but perhaps a rambling item from this region will not be unacceptable to your readers. Yesterday I received the February number of your, to me, *very valuable* journal, and although I did not get it till evening, I did not sleep till I had read it through. I am a beginner in bee culture, and it is but a few months since I learned of such institutions as "Bee Associations and Bee Conventions." In one of our city papers I saw a statement several weeks ago, that W. H. Furman, of Cedar Rapids, in this state, had sold tons of honey, and over one thousand dollars worth of Italian queens, the last season, and I thought perhaps I could get answers to a few questions by writing him, which I did, and got the desired information, and, besides, Mr. Furman gave me, not a *polite invitation*, but *commanded* me to attend the first annual meeting of the "Central Iowa Bee Keepers Association," to be held at Cedar Rapids on the 18th and 19th of January, 1872, saying, also, that it would *pay me.* Having been brought up to obey "the power that be," of course I attended the meeting, and the first evidence I got about its paying me, was to pay a membership fee, and then, with a goodly number of others, subscribe and *pay* for the American Bee Journal. There were between forty and fifty bee-keepers present at the convention, (six of whom were ladies,) representing or owning about two thousand colonies of bees. With others, I had the pleasure of enjoying the hospitality of W. H. Furman and wife, and took a look in Mr. F's cellar, and examined a few of the two hundred and seventy-five colonies of bees kept there during the winter. Mr. F. has been a successful bee-keeper for several years, disposing of tons of honey, and raising and selling a large number of Italian queens every season. I discovered a large glass arrangement in his front yard, and upon examining it, found it was an enormous, double, glass bee hive, one above the other, with the cards of honey, bees, and all the internal arrangements, in full view, and it looked so very nice and pretty that I am making one on a smaller scale, and expect to take lots of comfort watching the doings of the "busy bee" the coming season. Mr. F. uses the Langstroth hive, and, I believe, owns the right for this state. But I'm forgetting our convention. The usual complement of officers were elected, with W. H. Furman, of Cedar Rapids, as president, and Geo. W Barclay, of Tifton, secretary. Those in attendance were there for the purpose of getting information, and I believe *I* was the greenest one in attendance, as might be judged by every member of the convention laughing at me when I asked a gentleman who was speaking of "fertile workers," "what is a fertile worker?" *Perhaps* some of those who laughed at me knew as little about it as I did. The discussions were profitable and freely participated in. Fine specimens of honey were shown, also bee hives and a honey extractor. Nearly every one present uses the Langstroth hive. Among the resolutions adopted were the following:—

Resolved, That every bee-culturist ought to take one or more bee journals, to the end that bee-culture, as a science, may take that elevated position among the industries of the state that is eminently its due.

Resolved, That the President and Secretary of this Association be instructed to collect statistics as to the rise, progress and success of bee-culture in the state, and as to its value as a source of wealth to individuals and to the state.

The next meeting of the association is to be held at Cedar Rapids, during the time of holding the Iowa State Fair there next fall, and the next Annual Meeting commences on the third Wednesday in January, 1873, at Cedar Rapids.

With many wishes for the prosperity of the Journal, I am, Yours respectfully,

A. B. Mason.

Waterloo, Iowa, Feb. 16th, 1872.

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[For the American Bee Journal.]

Bees and King-Birds.

For the last ten years I have carefully noted the habits and movements of king-birds, and have come to the following conclusion, viz: that they do eat the honey bee, and so does the purple martin; but instead of being destroyed for it, they should be protected and allowed to build their nests near the farm-house, because they drive off the hawks, crows and other plundering birds from the poultry yard. Warm afternoons in July and August, when the drone bees are out, we have seen the martins come down within ten feet of the hive and snap up the drone bees, thus relieving the workers from the necessity of expelling them from the hive and biting off their wings to prevent them from getting back to the hive. The king-bird also, we find, selects the drone, and will come afternoons and take his position on a stake in front of the hive, and when a drone bee comes along will make a rush for him, come back to the stake, give him a pick or two and swallow him. But, says an objector, what do they subsist on before the drone bees fly out? This point I settled by shooting one in the month of May, and I found in his crop the wings and legs of May-bugs. By watching their movements, I find the dragon-fly is also a favorite food for them. So, to the farmer we say, by all means do not destroy the king-birds. There is not a more watchful sentinel on the farm; and woe to the crow or hawk that comes near the farm-house. The crow dreads him, and I have seen them make a long detour to avoid the king-bird. The martins we like to have around, but as to their driving off the hawks and crows, this is a mistake. True, they will drive at the hawk, but it has very little effect. J. L. Hersey.

Tuftonborough, N. H.

Queries.—Which do you consider the best for bee-pasture, white or alsike clover?

I find that bees, when they swarm and go off to a hollow tree, generally select it near a meadow or pond. Why is this?

A friend who keeps bees says he prefers to let his bees set out on their summer location, without any covering, or stopping them up. He says there will just about so many die, and he prefers to have them fly out and die on the snow, rather than in the hive. Is this a fact?

And he says also, about five days before they swarm the queen bee comes out and goes off and selects a tree for their future home. Is this so?

J. L. H.

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[For the American Bee Journal.]

Travel in Italy.

(CONCLUDED.)

As soon as we arrived in Borgo Priolo, we placed the bees carefully in a big willow basket, and this was fastened on the wagon, together with other baskets containing fruits that had already been loaded on it, for the purpose of starting for Milan on the next day.

During supper, the *incettatore* talked with us about his trade. He sells fruits every year to the amount of fifteen or twenty thousand francs. I observed that his fruits, being pressed together in his large baskets and carried in a wagon without springs, must necessarily arrive in rather poor condition. He admitted this, and said that sometimes he could not obtain more than half price for his fruits, on account of their bad condition. I then told him that it would pay him to buy two horses and a spring wagon in place of his miserable equipage. He thought it would pay, and he had the means to do it, but his father had done as he did and he was not disposed to change his habits. However, as he understood that his fruits would keep better in smaller boxes, he asked Sartori to send him one hundred fruit boxes, *à l' Americaine,* for trial.

Although we had come back early from our expedition, as I was very tired, I left Sartori with our host and went to bed. The house in which I was, was an old stone building with walls two feet thick, and small windows, shut up with an iron grating, as though the house had been built to stand a siege. The kitchen was the only room provided with a chimney. This chimney was ten feet broad, and to prevent the enormous current of air from being felt by those who warmed themselves by the fire, they had built, between the door and the chimney, a wall that projected six feet into the kitchen. The stairs that led to the upper apartments were made of flag stones five feet long and two feet broad. The room in which I slept with Sartori, had two windows on two opposite sides. One of the windows had glass panes and the other was closed with paper.

As we were to take the train only at half past seven in the morning, I thought that I could sleep longer than on the preceding nights. But the *incettatore* woke us at one o'clock. In computing the time that was necessary to go to Calcababbio with the mule, I understood that we would not arrive too soon. Our host evidently supposed that we would ride on his cart; he was not afraid of overloading his mule. But we concluded that the trip would be more pleasant for us if we went on foot, and we started ahead. At five o'clock we arrived at the station. It was closed. A coffee-house near by was open, and after having drank a good cup of coffee each, we went to sleep on our seats. At daylight we returned to the station, and as we looked around us we ascertained that we had never seen this place before. We soon found out that we were not in Calcababbio, but in Casteggio, on another railroad line. Luckily, there was a train passing that corresponded with that of Calcababbio. Sartori sent a dispatch (price 10 cents) to the *incettatore,* to inform him of what happened, and asking him to send the queens, and three hours after we arrived in Milan.

My travels in Tessin, Upper Italy, Piedmont and Lombardy permit me to form an opinion on the origin of the Italian bee. To my judgment, this race did not originate from a cross between the black and Egyptian bees, but is the result of the improvement of the common race by the climate and natural selection. Egyptian bees could not modify the common race by crossing, so as to establish the present variety, unless some bee-keepers had imported them on a large scale, for we know how rapidly all trace of Italian blood disappears when put in contact with a large quantity of black bees, if no efforts are made to preserve it. Besides it would have been necessary that not only the Italians but also the Greeks had made importations of Egyptian bees, for the Italian bee has existed in Greece for a long time. The ancient authors speak about this variety and advise to give it the preference. Honey was held in great honor among the ancients, as they did not manufacture sugar, and bee-culture was a flourishing branch of industry, if we are to judge of it by the great number of Latin and Greek words, mostly Greek, that have reference to the industry of bees. The different Greek dialects have no less than fifty words derived from the word meli (*meli,* honey.)

The mildness of the climate of this part of Europe has necessarily had, during a long period of time, an influence on the black race, by perfecting it. The inhabitants could not help noticing this change, and comparing this new race with the other. And, the authors having praised the qualities of the new race, it is naturally probable that every bee-keeper preserved from brimstone the quietest and brightest bees.

Such is, in my opinion, the origin of this beautiful race. What induces me to think so, is the fact that in the plains of Lombardy I found the bees all exactly similar, *i. e.,* all had very narrow black stripes on the yellow rings of the abdomen; and as soon as I swerved from the plains into the mountains, either in Switzerland or in Piedmont, the black stripes were broader and the bees more aggressive. At a certain distance in the mountains, I found no more bees whose queens were worth importing, although it was certain that they were not hybrids, but the yellow rings were almost lost in the black stripes. I even found, in several hives, a few bees that were completely black.

I say that I am certain that those bees were not hybrids, because I cannot imagine how this hybridization could originate, the Alps being there with their insuperable barriers. If it is objected that what is insurmountable for man, may not be so for winged insects, I will answer, that if the mixture of the races could have taken place on one side of the Alps, it would have also taken place on the other side. I ascertained *de visù*, and also by inquiry, that there were no Italian bees on the north side of the Alps in the districts of Vaud and Valais. It is, therefore, natural to suppose that if the mildness of the climate of the plains of Italy has modified the color and temper of the bees, the labor that the mountains imposed upon them in the vicinity of the Alps, together with a more changeable and inhospitable climate, must have diminished, if they have not altogether prevented this transformation, although the latter must have been considerably helped by the proximity of the apiaries of the plains.

Some apiarians will ask whether it is not to be feared that the Italian bees will turn back to the old race again, when they are removed from the country of their birth; for if the circumstances of the Italian climate have modified these bees, the absence of such circumstances must have the contrary effect. It is to be supposed that at some remote time, this return to the old race may possibly take place. But as the change for the better has taken a long succession of centuries to be effected, the *reversion*, likewise, will not take place for a long time to come, and neither ourselves nor our children, nor even our great-grandchildren, will witness the deterioration of this beautiful race.

Another point on which I wished to become enlightened was this: Do Italian queens produce daughters exactly similar to their own selves? I saw over five hundred queens, and even in Lombardy, where the bees are the nicest, I did not find all the queens alike in color.

Those who give this quality as a sign of purity, are therefore completely in error.

I saw queens of all shades, from yellow to black, and the officers of the Central Society of Bee-Culture of Milan, confirmed to me what I already believed, viz.: that the dark queens are the best. During the trip that I have related above, I saw a queen whose abdomen was entirely black. Sartori was going to kill her, but I noticed that the bees were good looking, and that the hive was full of brood. I kept her, and as I could not deliver her to any of our American breeders, I marked the box. She was alive at the arrival, and I introduced her in a hive. I am convinced that she will prove as good as any of the queens that I preserved.

I have a few words more to say about the importation of Italian bees, and the risks of this commerce. Mr. H. A. Burch asks, whether some Yankee could not devise some means of succeeding in this business. The importation of queens, like the wintering of bees, is not a matter of imagination, but of experience.

The shippers know how they pack the bees, but as they do not see them on their arrival, they do not know the causes of failure. On the other hand, the person who receives the bees can hardly understand the true causes of mortality during the journey.

Having packed with my own hands three hundred and forty-eight queens, and having ascertained their condition on their arrival, I could readily perceive the true causes of mortality. I will not give them here, but I will say, that for this, as for wintering, apparently trivial causes will bring a disaster, and that I now understand why I received an invoice of queens alive after thirty-one days, when, from the same breeder, other invoices were all dead after twenty-three days only.

As it is important for apiarians to procure queens of uncontested purity, to breed from, not only for queen-breeders, but for bee-keepers, who, like myself, raise bees mostly for the yield of honey, I intend to renew the trip that I made last year. I will start in June, so as to come back earlier. That time is the best to procure young queens from second swarms.

Many bee-keepers complain of having had imported queens that did not live more than one or two years. This is certainly caused by the age of the queen. Importers should always order young queens, even if they have to pay a higher price for them. And if the shippers are honest, they may be certain of getting long-lived queens.

Let me, therefore, say to those who are willing to go to some expense to procure the best Italian bees, help me by sending early orders, either to Mrs. Tupper or myself, and I will try to prove that I have at last found the true conditions of success in the importation of Italian bees. Ch. Dadant.

Hamilton, Ill.

Reports, Experiences, and Opinions.

James Bolin, of West Lodi, O., writes:

The yield of honey in the season of 1872 was generally very light in this section. This was not owing so much to the want of honey in the flowers, as it was to the want of bees at the right time, when honey was to be had.

The weather was too cool for bees to be out of their hives the most of the time during the blossoming of fruit trees; so they missed, or nearly so, their first harvest, and as a consequence did not begin to breed freely until white clover was in bloom, and by the time they had become strong enough to do anything the honey harvest was about over, so that a great many stocks did not collect more honey than it will take to winter them, and some not even that much. The result of last season, with us, shows that the adage that "every man must be the architect of his own fortune," applies to bee-keeping with as much force as to any other pursuit; for where bees were stimulated by feeding in the spring, so as to have them strong when the honey harvest came, the yield of honey, although not equal to that of former years, was reasonably good. My best stock gave me one hundred and sixty-eight pounds of honey and one swarm; and I have a number of stocks from each of which I obtained over one hundred pounds of box honey. I extracted all the honey from one swarm on Monday, and again on Friday at the same hour, and the yield was forty-eight pounds the last time.

I am using the Langstroth hive; the caps, as I make them, holding twelve four pound boxes. I found last summer that when I had twelve such boxes on some strong stocks and they were full of bees, that there would still be a large cluster hanging outside. I did not want to divide them at that time, as I wished to get all the box honey I could; I therefore resolved to try an experiment, and see if I could not put them to work in boxes. So as soon as the boxes I put on first were about two-thirds full of comb, I raised them all up and put twelve more empty ones under them; thus having twenty-four boxes and two caps on one hive, by taking the cover off one cap, and putting that on the hive, and the other cap on the top of it. I found that a strong stock would fill the entire twenty-four boxes almost as soon as they would twelve, as it gave them all room to work. In this way, I obtained almost twice as much honey from stocks treated in the above manner, as I did from others equally as strong, but on which I only put twelve boxes at a time.

One of my bee-keeping friends in this county stated some time ago, through the JOURNAL, that with him the hybrids gave the best satisfaction as honey gatherers. Having been frequently asked my opinion on the subject, I would say that all my experience goes to show that as long as honey is plenty, a hybrid stock will gather as much honey, perhaps, as a stock of pure Italians will, but no more; but after white clover and basswood blossoms are gone, one swarm of pure Italians will store as much honey as two swarms of hybrids, since after white clover and basswood are gone, bees in this section have to depend principally on the second crop of red clover for the most of the honey they obtain, and pure Italians are much better workers on that than the hybrids are.

A. W. Dawley, of Mankato, Minn., writes: "All bees that were divided and put into winter quarters on the Hosmer plan have mostly died this winter. Hosmer has lost, I understand, about sixty stocks, or rather, as I call them, nucleuses."

M. S. Klum, of Sherman, Texas, writes: "Mr. Furman says he would like to have bee-keepers try watermelons for bees. During the dry weather last fall I cut melons open and set them with all the rinds we eat the meat out of, and my bees visited them in large numbers, and I suppose stored some honey from them."

Samuel Byram, of Mitchellsville, Tenn., writes: "Quite a number of bees have died during the cold season here—some have lost half, and others one-third of their stocks."

L. B. Cullen, of Columbia, Tenn., writes under date of March 17:—"Bees are doing well, plenty of drones out."

N. H. King, of Folsom, California, writes:—"The best honey here is obtained in these foothills, where the buckeye shrub abounds. The bees store much good honey even from the buckeye, but it has the curious effect of deforming the young bees, causing them to come forth minus a leg or a wing, and also at the close of the season, the old bees, or most of them, turn to robbing at a furious rate, till the honey is all consumed. Then the robbing ceases, and most of the stocks recuperate from the honey-dew or fall harvest. I know of but three stocks besides my own, within several miles of me."

Albert Potter, of Eureka, Winnebago Co., Wis., sends us a full and interesting account of his experiments in wintering bees. He tried a straw house, double-boarded hives filled in with cut straw and chaff, putting in the house cellar, and various other methods; thinks the cellar plan the best, as he lost fewer that way than any other. He thinks Novice wrong in advocating extracted honey so exclusively, as he could only get 10c. a pound for it, and that with difficulty, while box honey sold readily at 25c.

J. F. Bingham, of Alleghan, Mich., writes under date of March 17:—"My bees were taken out yesterday after just four months of total darkness, in good order; they had natural honey only."

G. T. Fearon, of Pratt's Hollow, N. Y., writes:—"The past season has been a very poor one for bees with us. I commenced the winter of 1871–2 with 445 stocks. By the following June I had lost 170 of them. They were wintered mostly in the house and cellar. Those that wintered out-doors I think did the best, as they had a fly in February. I lost a good many of those that were wintered in the house and cellar by leaving the hives, queen and all, and going into other hives; also carrying out so many on the same day, they got to robbing and followed it up all the spring, so that I lost more after I set them out, than I did in the winter. I also lost a great many by the queens dying from some unknown cause. The past season I have not got honey enough to pay for the sugar that I have fed. The past winter I commenced with 320 colonies. I am wintering mostly out-doors, with snow shoveled around the hives for protection. I have already lost 30 stocks, mostly, to all appearance, by the bees eating up through and not moving to get to their honey. I am in hopes I shall have enough left for seed to fill up some of my old hives, and use up some of my old comb."

T. E. Griffin of Owensboro, Kentucky, writes:—"Well, old BEE JOURNAL! It has now been one year or more since I began to read your intelligent pages, and I can say that I have been very much interested and instructed. I have learned something about the world and its ways, as well as much about bee-ing."

A. W. Davis, of Walworth, Wis., says:—"I would be pleased to see in the A. B. J. one or more lessons in the A, B, C, or first principles of apiculture, for those that are just beginning (or intend to) in scientific bee-keeping. I don't suppose many are as thick-headed as I am, and I don't want any to be two years, as I was, learning the necessity of, and how to keep stocks strong, and many other things. Therefore, will some of the veterans give us a chapter or two on management for the season, something like the following: Subscribe for the AMERICAN BEE JOURNAL; get bees into moveable frame hives; contract the hive by division board, for what purpose, and when, and management until hive is full of bees; stimulate, for what, when and how; ditto midsummer, if dearth of honey, and to end of season.

Martin Russell, of Randolph, Wis., writes: "Bees suffered fearfully in this locality a year ago, but this winter they have gone through better, although it has been very severe."

A. B. Mason, of Waterloo, Iowa, writes, March 18:—"Many colonies of bees have died in this region the past winter, all that I have seen, of dysentery. Mine have come out all right, and are increasing rapidly in numbers."

Adam Grimm informs us that he has lost 22 out of 620 colonies this winter, and that about one-eighth of his stocks are weak. They were wintered in-doors.

Wm. Hazen, of West Hartford, Windsor Co., Vt., says:—"While many report the last season a poor one, I can report it good with me."

Albert Bull, of Bloomfield, Province of Ontario, writes:—"I have done very well the past season with my bees. I took from three separate hives, (Langstroth), two-story, nine frames in the lower, and nine in the upper, 125 to 130 pounds each. I took near two thousand pounds from sixteen stocks."

W. Spedding, of Port Sanilac, Mich., writes:—"Last season I had three stands of bees which yielded over 300 pounds of nice box honey. In the fall I had seven stocks; now I have six. I wintered them on their summer stands, but would prefer to winter inside if I had a suitable place."

M. G. Palmer, of Portland, Me., writes:—"I usually keep from 15 to 25 colonies for the pleasure it affords, and to prove that bee-keeping is not a lost art in Maine. Good honey in small boxes usually retails here for 50 cents per pound.

R. Bristol, of Farmington, Ill., writes:—"I have lost over half my bees the last winter, and feel almost discouraged, but will "try again."

Jno. F. Dipman, of Fremont, O., writes: "I have lost seventeen stocks of bees out of twenty-one this winter, my bees being all in good condition last fall."

S P. Shipley, (Whistler,) of Olena, Huron Co., Ohio, writes:—"I started in winter with forty-five swarms. I have lost three by starvation. I thought they had enough honey to do till I could feed again, but the winter proved so cold that they ran out. My plan of wintering is as follows: I place my bees along in a row eight inches apart, facing the south. I then set a board at the back of the row, six inches from the hives, and pack dry sawdust between each hive, and at the back between the hive and the board. This sawdust covers the bottom of the hive up to the hood, I then take off the hood and the glass honey board, and lay some strips of wood across the frames, and cover with a piece of carpet. Then I place the hood on top of the hive. I set a board in front of the row of hives about six inches from the hives, and tuck oat straw between the board and hives, so that they can get air through the straw. It breaks the first blast of the wind, and shades the warm sun from the entrance. When the weather will admit of it, I lay down the board in front, and pull the straw away, and let the bees have a flight. They have had but two this winter. I lose but few bees on this plan, though I don't recommend it as better than cellaring them. But it is the best way I ever saw of wintering out-doors. Another thing; if there is snow on the ground before I let them out, I cover the snow in front and back of the hives with straw for the bees to light on, and as soon as they return to the hive, I take up the straw and save it for another time. As soon as the weather will admit of moving them to their summer stands, I will do so, and commence feeding on Mr. Hosmer's plan. As soon as I get one hive full of brood I will set an empty hive on the top of the full hive, which makes a perfect double one, and I can take off one half of the top one and place an empty half in its room, while I extract the honey from the first half. I do not want my bees to do more than to double. I want strong swarms to gather honey, and this plan is a good one to increase or strengthen each colony."

James Bolin, of West Lodi, O., writes;—"Where bees were properly taken care of and housed the past winter they came through in good condition, with but few exceptions, being strong in numbers and ready for the summer's work. I have mine at work on rye flour, every pleasant day, and although we have had but a few days that were warm enough for them to be out of their hives, yet they have carried in over one bushel at this date.

Where bees were wintered on their summer stands, they have suffered badly with dysentery. I think that at least half of those wintered out of doors have died with it, whilst mine, that were wintered in a warm house, are nearly, or quite exempt. A neighbor, living within half a mile of me, has lost five out of eight swarms with it. Does not this go to show that, with us, at least, it is caused by cold? I came to the conclusion several years ago, that where bees suffered with it, in this section, it was caused by one or more of three causes, viz: too much honey, too few bees, or cold; all of which may, with proper care, be remedied by the apiarian."

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[For the American Bee Journal.]

Something About Hives.

"Novice" says that he has had many letters making inquiries about the Bay State Hive, and about several others that he named. Well, what of that? Will "Novice" please tell the readers of this journal how many of the hives he names he has in use? If he has no more of them in use than he has of the Bay State Hives, he had better tell all those who make such inquiries that he don't know about them, and through the columns of the A. B. J., too, if that suits him. Better not give an opinion about that of which you have had no experience, and of which you know nothing.

"Novice" further says that we have given the readers of this journal to understand that the Bay State always gives a good quantity of surplus. So they do, when other hives are doing well, if they are managed and treated the same. I don't believe that there is a reader of this journal who is foolish enough to believe that bees will gather and store honey in our hives when they do not in others. Such an assertion is an insult to the readers of this journal, and I don't believe one can be found among them all who so understood me.

"Novice" acknowledges in his attack on the Bay State Hive that the owner of the hive in question could have realized as much profit from the Bay State Hive as from any, if he had treated it the same—a job he did not undertake, as he supposed the frames came out hard, or with considerable trouble. Now the frames are as easily removed from the Bay State Hive as from "*our two-story Langstroth*," after they have once been taken out. Let the frames remain in any hive which has a strong colony of bees in it, one week, with no boxes on it while forage is abundant, and the bees will stick them in so that it will be difficult to remove them. It is no more so with the Bay State Hive than it is with any other in this respect.

In opening a Langstroth Hive I always commence on one side and take out the first comb that I think will come out the easiest. With the Bay State Hive, commence with the rear comb, that will come out the easiest, generally, and I never found any more trouble in removing frames from *our* hives than I did from others, when the combs were built within the frames, as they should be, and will be if the bee-keeper understands his business. Any bee-keeper who cannot keep the combs in his hives straight, and exactly within the frames, had better not use them, as they are about the same as worthless to him. Why not show your friend who has this hive in use how to remove the frames? That hive has not got close top frames, and you will not get stung.

Again "Novice" says: In our opinion every colony should yield at least fifty pounds of surplus, the *worst season*, and that can only be done with the extractors. Have "Novice's" bees done this since he first got the extractors? I guess not, and there are thousands of bee-keepers all over the country who know that there are seasons when their bees do not gather one-half that amount of honey. *We* bee-keepers, who don't pretend to know much, found that out years ago. I have always made it a rule to put boxes on where a full colony were stowing honey in the rear or outside combs, and when they don't do that, I am of opinion that the boxes and extractor had not better be used. We have had one season here in New England, within seven years, when not one ounce of honey could be taken from a full hive of bees, not even with the extractor. We were not a novice at the business that season by any means, but we had movable frames, and two-story hives. I examined several of my best colonies every pleasant day, and only now and then one cell of new honey could be seen, and had we not had considerable experience in feeding sugar syrup to our bees, we should probably have lost all we had. We fed them all they needed in August and September of that year, and we never had our bees winter better than they did the following winter. About that time we were fully convinced that sugar syrup was much better than honey for bees to winter on, and what thick-headed fellow would not have discovered the same thing?

Our bees were confined to their hives a long time, and when allowed to fly in the winter, the snow was not so highly colored in front of the hives as it is when bees winter upon their own stores. Then, again, the bees kept very quiet, and but few died. This part of our story is intended as a reply to that part of "Novice's" article on page 121, December number. He says: "Alley fed sugar syrup to his bees for 15 years, and thinks we knew not why we succeeded until he mentioned it in the JOURNAL." Gracious! don't self-conceit stick out in some people? Why, my good friend, we knew why we succeeded before you knew how many legs a bee has; yes, and we might say that we knew not only that fact concerning bees, but many others, too, that you think are original with yourself. You must not be so foolish as to think that we are ignorant of what we are doing because we don't sit down and write all our thoughts, and note every action, and send it to the JOURNAL. When we have anything that in our opinion will interest the readers of the JOURNAL, we take great pleasure in sending it to the Editor, and let him do as he pleases with it, and we have received the thanks of many readers for valuable information gleaned from our articles.

Now I will venture to say that I have written and told to more than one hundred bee-keepers within one year, the advantages of feeding sugar syrup to bees to winter upon. Last March I had some correspondence with a man who has imported several lots of queens, and with the usual poor success. I gave him my idea for preparing food for the bees during transit from Europe to America, and that was this: Have the food consist of sugar syrup, and put in the combs here by the bees and sealed up, and take it to Europe. Make the shipping boxes there. I gave as my reason for so doing this: that the bees could stand the journey better, and that they would not want to fly as often as they would if honey was their food.

Now it strikes me that I knew why it was that sugar syrup was better food for bees than honey. This sugar syrup business is not original with me, more than it is with "Novice," but I got it from bee-keepers fifteen years ago, in the town of Reading, Mass., and most any of the bee-keepers in that vicinity can teach some of the knowing ones of this day their A. B. C.s in bee-keeping. They had the Langstroth hives in use, and those famous "two-story hives" which we hear so much about, were in use in those days. "Novice" fears that he will lose the "*laurels*." Don't be frightened, I don't claim them, and you are welcome to them all.

We will say to those bee-keepers who have seen the cut of our frame on page 552, that we *do not* now use the frame we then described, and further, that the style was not changed on account of any difficulty in removing them, but for the purpose of making other improvements in the Bay State Hive. The frame we now use is not so deep by several inches, and with the improvement we have made in frames, we venture to say that no frame in the world can be more easily removed from the hive than ours.

Now "Novice," why not own up and tell the readers of the JOURNAL why it is that you are so prejudiced against all other hives, except the "two-story Langstroth Hive as we use them?" Why not tell them that you have a hive to sell them? Also a tea-kettle feeder, metallic corner-pieces, etc.? Thus people will know just as well as I do why it is that other hives are so worthless in your estimation.

You are doing your level best to prejudice people against all other hives, and giving them to understand, at the same time, that your wares are just what they need, and that they must have them or fail in bee-keeping.

Let me inform all who have not been through "the mill," that all these "jim-crack" fixings, such as some people advertise for bee-hives, are worse than useless; the more you have of them the poorer will be your success, and the sooner will you abandon the pursuit in disgust.

Friend "Novice," I am going to repeat just your words: "I don't say what I have above *to injure your wares, but only wish to add my mite for the general information of all concerned.*"

Now, for an experiment, let a man set up the business and commence with our movable comb hives and boxes, and then send and get one of those "two-story tea-kettle feeder-honey-knife-extractors-without-bottom-metallic-corner quilts and iron-block," with all the other "jim-crack" notions, and if he don't find the simple hive, with boxes, the cheapest, most profitable and the easiest in the end, then I am mistaken. "Novice" claims to have extra good success in bee-keeping. I wonder if his neighbors do the same? Of course such good success must be contagious in that vicinity. I never knew that some bee-keepers abandoned the pursuit in disgust, some ten years since, on account of getting so little box-honey. Nearly all the bee-keepers in the State of New York have their honey stored in boxes, and send it to market by the ton. Consider for a moment the vast amount of box honey Quinby has sent to the New York market in boxes. I wonder if he didn't find it profitable keeping bees before "two-story Langstroth Hives, tea-kettle-feeders and honey-extractors" were invented? I wonder if those bee-keepers in New York who send their honey to Boston in small boxes don't find it profitable to have their honey put up in that style.

The man who undertakes to make bee-keepers believe that the use of the extractor is the only way to a fortune in bee-keeping, has got a big job on his hands, until he first convinces the people that all liquid honey is "simon pure." I shall cling to the opinion that the use of small boxes is the safest, easiest and only way to make bee-keeping profitable.

Why is it that "Novice" feels obliged to answer all questions of private correspondents through the columns of the Journal? Would it not be just as well to reply through the Journal only to those who asked through the same? I would like to see the names, in the Journal, of all that long list of persons who have asked his opinion of the Bay State Hive.

H. Alley.

Wenham, Mass., Dec. 3, 1872.

P. S. I wish all those who have purchased hives of me to send me their name and address, as I intend to give each of them an individual right to make and use the Bay State Hive. H. A.

[For the American Bee Journal.]

Of the Bees that Were, and a Few Questions to Hosmer.

In the February number, page 187, I find an article from Mr. Hosmer, discussing the disastrous mortality of bees last winter. He lays it all to the old bees. I hardly think that fair. He says they did not breed late enough in the fall to winter an army of young bees. We had 46 stocks last fall, all in good condition when put in their winter quarters, and have lost them all!

Now let us see in what condition they were. All the honey obtained was extracted, and the most of that was extracted in the fall. We extracted all the hives a few days before honey-gathering ceased, and they only had barely time to gather enough for winter, consequently they did not fill their brood-chambers with honey. Some of the honey was left uncapped; but as a general rule it was well sealed up.

On examining them about the 20th of December, I found two dead, and one in a dying condition; the bees were clustered under the honey-board, (I use building paper tacked on a frame made of laths,) and the outside of the cluster were dead; I gave them more ventilation, thinking perhaps that was the cause. I also found signs of the dysentery in about half a dozen hives. At my next examination, I found six dead, including the one just mentioned, and found that the dysentery had affected nearly all. The winter was so severe that I could not give them a chance to fly. They kept on dying in spite of all our efforts to keep them alive.

Now, Mr. Hosmer, how is it? If they died because they were too old, why did they not die in former years in the same manner, and why is it that they are all affected with the dysentery, and that, too, in an aggravated form? Then such people that hardly ever look at their bees, would lose them nearly every year. One of our neighbors has lost four-fifths of his bees, another one-half, and still another did not lose one! and neither one of them stimulated their bees in the fall. You say if it is the "epizootic," why it does not effect them all? The same question can be asked in regard to your theory. If it is because they are too old, why do they not all die—that is, those that were under the same management?

Respectfully yours,
J. D. Kruschke.

Berlin, Wis., March 21, 1873.

Letter from Mr. Geo. S. Wagner.

D. M. Worthington, Esq.,

Dear Sir:—I to-day received the March number of the Bee Journal, and find your allusion to the death of Mr. Richard Colvin. I was not aware of his death until about the tenth of February, when Mr. Langstroth passed through here, and since then I have been so much engaged that it would have been impossible for me to have prepared a fitting notice of Mr. Colvin. Indeed, I would greatly prefer that Mr. Langstroth should prepare the notice, as he could, I know, write one that would do greater justice to the merits and attainments of Mr. Colvin than any efforts on my part. I write this to let you know that it was not neglect or indifference on my part, that the notice was not prepared, for no one could have a higher appreciation of the honesty, ability, and earnestness of Mr. Colvin than I. When I last met him, some four years ago, he was strong and robust, and I should have judged had a long career of usefulness before him.

Yours truly,
Geo. S. Wagner.

Fearing that some readers of the Journal may have formed an impression, from what I said in the March number, that there had been neglect or indifference on Mr. Wagner's part, in regard to a notice of Mr. Colvin's death, I thought it but just to him to obtain his permission to have the above letter published. Daniel M. Worthington.

St. Denis, Md., March 22, 1873.

THE AMERICAN BEE JOURNAL.

Chicago, April, 1873.

Proceedings of the North American Bee-Keepers' Society.

It appears that this Journal is the only one that has faithfully published the official report of the society's last annual meeting. It was resolved: "That D. L. Adair be employed as reporter of the society, and that a full report be had of the proceedings to be published in the different bee journals and agricultural papers." Fifty dollars were set apart as remuneration to Mr. Adair for preparing the report, and supplying the various periodicals with it. The society spared neither pains nor expense to secure a good report, and the fullest publicity to it. Yet, some, who promised "a full report," have mutilated and abbreviated it to suit themselves, and *only im the pages of the* American Bee Journal has faith been kept with the society, and justice done it. Bee-keepers will please make a note of this.

A Fling at Apiculture.

> "People who—deluded by the one-sided statements of interested apiarians—are all ready to embark in the bee business, with the expectation that there can be no possible dash of bitterness in their cups, are requested to consider the complaint that comes from Marysville, Ohio, to the effect that the honey-makers in that locality are generally all dead from frost or starvation."

The above, which we clip from the agricultural department of the *N. Y. Times*, is a specimen of the unfair manner in which bee-keeping is dealt with by not a few who ought to know better. We are not aware that any apiarians, however "interested," are in the habit of deluding people into bee-keeping by representing that they cannot possibly have "a dash of bitterness in their cups." It would be contrary to all experience, and very foolish, to do so. "Interested apiarians" contend that, properly managed, bee-keeping is a fairly remunerative branch of rural industry, and they frankly own that, like any other business, it is liable to reverses and mishaps. But it is mainly the spirit of the above quotation which is objectionable. We presume the agricultural editor of the *N. Y. Times* did not gloat over the prevalence of rinderpest among cattle, or the epizootic among horses, and why should he gloat over the mortality among bees? Ought he not rather to feel and express regret and sympathy when disaster befalls one of the productive industries of the land? Did he warn people to let cattle-breeding alone when the herds were decimated by rinderpest? Or when a hard winter killed out the wheat crop, did he denounce grain-growing as a snare and a delusion? "Fair play *is* a jewel," and we want it for apiculture, as well as for other rural pursuits.

Appeal on Behalf of Mrs. Tupper.

We are sorry to learn that on the 7th of March Mrs. Tupper's house took fire, and the devouring element made its way to the cellar, destroying a number of her bees. The advance proof of an article from the *Bee-Keepers's Journal*, containing a strong appeal to the apiarian public for help in various ways, has been sent us for insertion in the A. B. J. But we must have a fuller account of the facts before we can publish any such appeal. It contains no statement of Mrs. Tupper's actual loss, and suppresses the fact that she was insured. It informs us that Mrs. Tupper had "*a number of stocks buried, with choice queens, part of them imported.*" From what we know as to the condition of Mrs. Tupper's apiary last fall, we are inclined to think that the insurance and the choice colonies buried out of doors will reduce her loss to a figure so trifling that the public need not be asked for help.

The appeal in question speaks of Mrs. Tupper as "one to whom apiculture is more deeply indebted than any other." We scorn to strip well-earned laurels from any brow, but there is neither truth nor justice in so extravagant a claim. Nor will it be conceded by intelligent and well-informed bee-keepers, until the names of Huber, Berlepsch, Langstroth, Quinby, and others, are forgotten.

Bee-Keeping.

BY THE EDITOR.

Bee-keeping, though pursued by some as a special business and by others as a pleasant pastime, is essentially one of the economies of the farm, and in the Old World a farm would hardly be thought completely stocked without a few hives. In this country bee-keeping by ordinary farmers is the exception rather than the rule. Indeed, it is looked upon by not a few as a sort of weakness, a species of hobby-riding, when a farmer takes to keeping bees.

Now we believe in what is called "mixed husbandry." The tendency is too much to go into one particular line of things. A few years ago the mania was for wheat growing, because wheat was the great cash article in the produce market. The rage in this western country has been too much for corn. When Merino sheep were bringing fancy prices, everybody was crazy to go into them. Not long since the rural passion was for hops. Just now, perhaps, the inclination sets toward stock-raising and dairying. But we contend that the wiser plan is to pursue a miscellaneous, general system of farming, except in those cases in which some peculiarity of soil or location dictates a specialty. Farmers should avoid as much as possible putting all into a single venture. They should try all expedients to increase their gains, and if one source of profit fails another will succeed. Nor should they despise littles, for, according to the old proverb, "many a little makes a mickle."

Bee-keeping well deserves a place among the lesser industries of the farm. As it is wise to keep poultry to pick up the waste grain and stray seeds, so it is wise to keep bees to gather the nectar of clover, orchard blossoms and wild flowers that would otherwise go to waste. It costs but little more to make a start in bee-keeping than it does to make a start in poultry-keeping, and season for season we will match the bees against the chickens, with large odds in favor of the bees.

Bee-keeping used to be a very crude affair. It was carried on with gums or straw hives, inside of which everything was fastly fixed and all a realm of mystery. The bees were left pretty much to themselves, until the close of the honey season, when they were brutally smothered with brimstone fumes; and the colony being thus exterminated, its stores were appropriated to the use and luxury of the owner. Now we have the movable frame hive, which gives the bee-keeper access to the interior of the colony, perfect control over it, and liberty to take the surplus honey without killing the bees. With this form of hive the loss of swarms by their going off to the woods can be prevented, queens can be given to stocks that become destitute of them, and weak colonies can be strengthened by giving them comb, bees, or honey.

The invention of the honey extractor, or as some American apiarians prefer to call it, the *melipult*, is another great step in advance. By the use of this contrivance the yield of honey, in a single season, can often be doubled, and even trebled. By the application of centrifugal force, the honey is thrown out of the combs, almost to the last drop, and on replacing the empty combs in the hive, the bees, as in duty bound, at once proceed to refill them. Often when they wholly suspend work, and will not put a drop of honey into a surplus box, though there is plenty of it in the field, they will replace the honey of which the extractor or melipult has deprived them. The reason of this is obvious. Instinct teaches them to fill the body of a hive with a store of sweet, but when that is done their task is accomplished, and they are not covetous, like man, who goes on laboriously accumulating even after he has enough. They have not only a craving instinct but an instinct of satisfaction. The well-filled hive appeals to this latter instinct. They know how to "rest and be thankful." Take away a portion of their stores and the craving instinct comes into play again, and drives them forth as busy workers to the fields for fresh supplies.

Another modern improvement in apiculture is the importation and breeding of superior bees. Bees, like larger stock, deteriorate by in-and-in breeding, and may be improved by crosses. There are inferior and superior breeds of bees, just as there are of poultry, swine, sheep, cattle, and horses. For a few years past Italian bees have been largely imported, and though it may seem an extravagant thing to give five or ten dollars for a queen bee—a little insect only about an inch long, it is no more so than to give a hundred dollars for a superior bull calf or ram lamb. The Italian cross has greatly improved common black bees, by giving them "a dash of fresh blood," as stock-breeders would express it, and by imparting to them desirable qualities. The Italians are a hardier race; busier than "the little busy bee" we have known from childhood; more prolific, more beautiful in appearance, and less inclined to sting.

Under the crude appliances of old-time bee-keeping it was a fairly remunerative business. "Bee profits" have figured in the balance sheets of old-world farming side by side with "poultry profits," from time immemorial. Much more then is it worthy of attention with the aid of modern improvements. Further progress may reasonably be expected. Science and skill are busy experimenting, and many wise heads are thinking out the subject n its various aspects. It is, therefore, only natural to expect that before many years apiculture will take a much higher rank than it now does among rural industries. Honey and beeswax are marketable articles for which there is a well-nigh limitless demand, a demand which, like that for fruit, increases with the supply. Honey forage is abundant everywhere. In wooded localities the maple, which when tapped, yields the sweet sap which we boil into sugar, furnishes honey in its earlier blossoms. In swamp regions there are various plants that supply bee-food with the first opening of spring. The willow yields pollen, propolis, and some say honey. Our early wild flowers and fruit-blooms give the bees something to do; and when white clover spangles the fields and roadsides, the honey harvest is in all its glory. The late basswood blossoms, raspberries, asters, golden-rods and buckwheat protract the honey season into the fall. The bees are the best farm laborers we can have, inasmuch as they work for nothing and board themselves.

Wintering is the great difficulty about bee-keeping in this climate. Twenty or thirty degrees below zero is hard on bees. But this difficulty can be and is overcome by proper management. Negligence is more fatal to the apiary than extreme cold. The present winter has been very severe on bees, and those left without care on their summer stands are for the most part dead. But while doleful accounts come from unskillful or careless bee-keepers, experienced and vigilant ones have brought their stocks through even the present winter, either wholly unharmed or with only a small percentage of loss.

The chief trouble with beginners in bee-keeping is that they will not go to the slight expense and small trouble necessary to get informed on the subject. They buy a hive of bees, about which they know nothing, except that bees can sting, and that their honey is nice, and then leave it to take care of itself. It is needless to say that this is a very foolish course to adopt. What wonder that only failure and loss are the result? It would be the same in sheep-raising, dairying, or any other line of farming. While, therefore, we advise the farmer to make bee-keeping one of many lines of industrial pursuit, we qualify the advice by urging that it be by no means entered into without seeking information in regard to it. This can easily be obtained from books on apiculture, and from bee journals.—*From "Farm, Garden and Home" department of Inter-Ocean.*

The Kansas Bee Hive.

Mr. Editor:—In the December number, page 132, Mr. Noah Cameron made some very incorrect statements in regard to the Kansas Bee Hive and myself. He says: "But the patented feature is the most curious. He first applied for a three side opener, but was refused because it infringed on other patents." This statement I pronounce entirely false. It can easily be proved at the United States Patent Office, that I never made application for any such contrivance as he represents. Mr. Cameron does not regard the patent as much of a "grab." Of course he has a right to his own opinion, and if he had given a fair and truthful account of the hive, so that others could form their opinions justly, I should not complain. He says: "this inventor intends to push things," meaning no doubt the hive business. It must be quite evident to all disinterested bee-keepers that Mr. Cameron has been pushing misrepresentations before the public. Many testimonies of practical bee-keepers can be given as to the merits of my hive, and where it is in use, as it is largely in Iowa and Kansas, it gives good satisfaction. A fair and candid investigation of its merits is all I ask.

It has some undeniable advantages; among them, ease of access to the bees without injury to them, a nice arrangement for box honey, provision for cleanliness at all times, a sheltered and slightly-inclined alighting board, controlled entrance, good ventilation, and a contrivance to secure straight-built combs. Mr. Cameron has failed to do it justice, and hence this letter.

F. Grabbe.

25 West Lake St., Chicago.

Central Illinois Bee-Keepers' Association.

The regular semi-annual meeting of the Bee-Keepers' Association of Central Illinois met in the City Council Hall of Bloomington, Ill., February 27, 1873, at 11 A. M.

The president and vice-presidents being absent, A. C. Washburn, of Bloomington, was called to the chair.

The secretary, John Ansley, of Bloomington, then read the minutes of the preceding meetings, which were approved.

The treasurer, J. L. Wolcott, presented his report, showing a balance of $4.90 in the treasury. Approved.

AFTERNOON SESSION.

The following questions were taken up:

1st. Fatality of bees during the present winter—its cause. This subject was responded to by J. L. Wolcott and others, who arrived at the conclusion that this fatality was owing partly to the bees having secured insufficient supplies of honey last summer, much of it unsealed; weak colonies; the long and severe winter, and improper ventilation.

2d. Best plan of uniting two colonies of bees. This was discussed by J. L. Peabody, of Normal, and others, who agreed that the most successful method is to catch both queens, destroy one, cage and hang the other in one of the hives, then sprinkle the bees in both hives well with sweetened water scented with essence of peppermint, and then unite them, letting the colony stand forty-eight hours, and then release the queen.

3d. Ventilation of hives. Responded to by J. Poindexter, A. C. Washburn and others, without coming to any conclusion.

4th. How may weak colonies be built up? This question was discussed by J. L. Peabody and others, resulting in the following decision: Supply the weak colony with combs filled with brood taken from strong colonies, all the old bees having been removed from the comb. When this cannot be done, contract the brood chamber of the weak colony by using division boards, and stimulate by feeding thin syrup made of coffee A sugar, one-third water and two-thirds sugar, brought to a boil.

And on motion of W. G. Thompson, of Normal, all the old officers of the Association were re-elected for the ensuing year, viz.:

President—S. C. Ware, Towanda. Vice-Presidents—J. V. Brooks, Lexington; C. V. Vandervoort, Bloomington; J. H. Hendrick, Clinton; J. L. Peabody, Normal. Secretary—John Ansley, Bloomington. Corresponding Secretary, J. W. Gladding, Normal. Treasurer—J. L. Wolcott, Bloomington.

On motion of J. L. Wolcott, the thanks of this association were returned to all the papers which had published a notice of this meeting, also to the City Council for the use of their hall.

The association then adjourned to meet at such time and place as the Executive Committee may appoint.

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[For the American Bee Journal.]

From the South.

Mr. CLARKE: I have been taking the A. B. J. for over a year, but have never seen more than one or two communications in it from any one this far south. I thought perhaps some of your many readers away up there in the frozen north and northwest would like to know what our bees are doing here, at this season of the year. the 15th of February. Well, I know if Messrs. Hosmer, Dunlap, Dr. Bohrer, Quinby, Galllup, Mrs. Tupper and a host of other bee-keepers from that cold country, could take a peep at my bees to-day and see how busy they are at work, and how fast they are making comb, they could not help but rejoice, as I do myself. I have been trying to feed them sugar syrup, but they do not care much for it, it appears that they find something in the woods that they like better than sugar-water. They have been bringing in pollen for the last two weeks and have commenced their work for the season in earnest.

How we bee-keepers here in the south sympathize with you bee-men up north. In looking over the last two numbers of the JOURNAL, we find the song from one end to the other, "how shall I winter my bees?" or "how shall I protect them from the cold and dysentry?" What an amount of labor they have to undergo to protect their little ones. They have to dig cellars, build houses, carry them in and carry them out, ventilate them to-day, and if it gets cold to-night, close them up to-morrow. Let me add one thought here. Speaking of ventilation for bees, I believe there is more humbuggery about that than anything pertaining to bee-keeping. I use a movable frame hive, and one that is well ventilated, and if bees need ventilation anywhere it is in the south during our hot summers. The hive that I am using I believe is as good a hive as any in use, and yet, in spite of all that I can do, they will close up all the ventilators, and that in the midst of summer. If I open them to-day they will have them closed to-morrow. I have come to the conclusion to let them have their own way about it, for when I am in the house and want the doors closed I am very apt to close them, and if they want their ventilators open, they can cut the propolis away as easily as to put it there.

We never think of moving our bees off their summer stands for protection here in the winter, in this latitude. We have had more cold weather this winter than ever before, yet notwithstanding our bees have not been kept in the hives more than three or four days at a time.

My bees did very well here last season, and I expect them to do better this year, if it is as good a season as it was last for gathering honey. I expect to use the extractor. I do not keep bees for a profit, but for the pleasure it gives me to be about them and see them at work, and then I am very fond of honey.

Mr. Clarke, I intend to try and get you some subscribers around here, for we have men living here, in this enlightened age, that are so far behind in regard to the knowledge of the nature and habits of the honey bee that I fear it will be a long time before they will get rid of their benighted ideas, even with the aid of the many able contributors to the A. B. J. Why, sir, we have men here who have bees who profess to know something about them with the old-fogyish ideas that the queen is the king or he-bee, and that the drones are the female bees, and that they are the ones that lay the eggs. I know that all the bee-men, north and west, will laugh when they hear this, but I cannot help it, for I have been trying to put some bee knowledge into their heads for a long time; some of them have been convinced, but there are others who are headstrong and think they know it all. It will require more force than I have to convert them, but if I can induce them to take the A. B. J. for one year, then I know they will be brought to the light and knowledge that they now possess not.

I am sure of this, that a man will never know much about bees until he reads the most popular works upon the honey bee, and takes a bee journal and throws away his old box gum and makes use of a movable frame hive. When he does this, then he can appreciate the operations of the bee.

Here, in this land, (you may say "land of honey," for the bees can gather it nearly all the year,) if a man gets twenty or twenty-five pounds of honey from a stand of bees, he thinks he is doing well. Why? Because they use the old box gum, and they rob the bees once or twice in a season. They have never seen a honey extractor, and many of them have never heard of such a thing. When I tell them of its results, that they can get from one to three hundred pounds of honey from a single colony, the mind of the listener is filled with incredulity, but when you establish the evidence upon which these results are based, then incredulity gives place to feelings of astonishment and admiration, and many will ask "what will they get at next?"

We have a good many bees in this part of the country, but no Italians. I tried last summer to Italianize my black bees, but failed on account of sickness. I have sent to get a colony of Italians, and if I get them I will soon have all of my blacks flying about with three golden bands around them.

C. H. CHANDLER.

Greenville, Butler Co., Ala., Feb. 15, 1873.

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☞ I here present thee with a hive of bees, laden, some with wax, and some with honey. Fear not to approach! There are no wasps, there are no hornets here. If some wanton bee should chance to buzz about thine ears, stand thy ground and hold thy hands; there's none that will sting thee if thou strike not first. If any do, she hath honey in her bag will cure thee too.—*Quarles.*

AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY W. F. CLARKE, CHICAGO, ILL.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

VOL. VIII. MAY, 1873. No. 11.

Novice.

DEAR BEE JOURNAL:—Do you really think your old correspondent quarrelsome? We certainly had an idea of endeavoring to make people better instead of worse, and supposed when we advised bee-keepers to make a hive that did not cost over $1.00, that we should only incur the displeasure and wrath of those having "rights for sale," and perhaps such is the case. Let us see: Adair "talked severe" to us first, and he advertises rights even yet. Alley came next and positively called names, and on page 234, April number, he seems to have been sorry he "didn't more;" see his article entitled "Something about Hives." Really, Mr. Alley, *our* name ain't "Hives," but we almost wished it was in reading your communication, for we were so tired of hearing so much the one at the head of this article. We did think of mentioning that our friend Shaw has just lost the bees that occupied that unlucky "Bay State," but as it might make more trouble we won't. King has just decided to *give the rights* to all the purchasers of American and International Hives, and if we are right Mr. Alley is going to follow, and Jasper Hazen don't charge but *five dollars* now, (the circular he sent us reads *ten*), and we presume Mr. Burch will, after a while, advertise a hive that gives rights free, and then Gallup too, will send a description to the A. B. J. of his "New Idea" hive. (We'll pay the dollar, Mr. Editor, even if Gallup didn't send us but twenty-five cents for our Magazine, and we advertised his honey in it too *for nothing*, so well that he sold it all in a hurry.)

We wondered why Mr. Moore, page 227, wrote so unkindly, and what possible objection he could have to our circular, until we saw his advertisement, and "rights, $5.00," in *Bee-Keepers' Magazine* for April. Our harmless little circular *will* spoil the sale of rights and we meant it should. We can't think what has given rise to the impression that we advise several hundred or a thousand colonies in one apiary. Mr. Hazen's quotation was only the answer we gave some one who asked what we should do if some bee-keeper located an apiary near our basswood orchard. We certainly shall not get 1,000 colonies in this locality at the present rate for we have lost thirteen out of our seventy-one now, and we fear it will be a long time before we "know all about wintering," to say nothing of knowing all about bee-keeping.

Mr. Hazen forgets that he himself mentions in the *Rural New Yorker* having given colonies young bees to strengthen them, so we need not mention other sources of information.

"The Coming Hive," from "Scientific," page 220, is in the right spirit, and is glorious, and we hope our honest, earnest bee-keepers will help him work out the problem. Those who succeed in out-door wintering, we should advise to adhere to that plan by all means, and the same may be said of hives with double walls. We sincerely hope we have no prejudices that stand in the way of our progress. So far as dysentery is concerned, we believe the evidence now amply sufficient that sugar syrup is a sure preventive, and until some one else shall show *in print* where they advocated its use as better than honey we claim the merit of the discovery, as we gave it on the pages of this AMERICAN BEE JOURNAL.

We have lost thirteen colonies, of which two died from dysentery, caused by natural stores. One of them we much regret as it was the Quinby hive. It contained a large amount of stores gathered in June, and an abundance of bees, but they died off gradually until the middle of March, then they were very weak, but as they had considerable brood, mostly sealed, we decided to make them go through on their natural stores, until the balance died all at once, combs and bees damp and soiled. A part of the remainder we feel sure died because they were fed thin syrup too late in the fall for the bees to seal it up, and the matter was worse because these colonies were weak in numbers. Strong colonies perhaps might be fed safely in October, or even November, but not weak ones we think. The stocks died without any apparent cause so far as we could see, unless it was that they gathered considerable stores from a cider mill near, after they had been fed their rations.

About a dozen colonies were given combs of sealed syrup from our "barrel-feeder," their own combs having been entirely removed; and these are in most excellent condition. Not more than one day occurred in March on which bees could fly freely, or we might perhaps have saved half of the thirteen; besides a small hurricane twisted the vane off our windmill and then blew the rest all to pieces, and we were so afraid that "patent hive men" might rejoice that we could make no more dollar hives, that we neglected everything for a week or more to put it in repair.

"Mr. Novice! do you know you are laying the blame all on some one else when you really neglected the bees? Do you know that it is a positive duty of yours to acknowledge leaving the Quinby hive on its summer stand without so much as removing the boxes?"

But it was so large we couldn't carry it into the bee-house.

"Then you should have removed the boxes and turned the frames, and packed it according to Mr. Q's directions."

So we should have done, but it was almost dark when the balance were housed, and the next day was stormy, and—and—there were no more pleasant days all winter.

"You mean you were careless and negligent, just as those are that you say should never attempt to keep bees. If Adair's conjecture that you neglected the Quinby hive in spring and summer, *was* incorrect, he certainly would have been right had he mentioned Autumn and Winter care."

But would they not have had the dysentery any way? you know they had natural stores. Next winter we will give them sugar syrup too, as you are satisfied *now* it is the best; and for the present we will immediately put one of our finest colonies in the hive and *try* and demonstrate that "we too, can raise box honey."

By the way, Mr. Editor, we are pleased to notice an advertisement of hives in the April number for $1.00 besides our own. We have never seen Mr. Stinebring, and do not know how his hive is made, but he bears a good reputation, and we hope more manufactures of $1.00 hives may follow in his track. We really hope they may not meet with the abuse we have received in breaking the first furrow in this direction. We have plenty of other employment and when some one else will do better work than we have done, for the same pay or less, we will welcome them as benefactors to our bee-keeping friends.

So far as stirring up trouble is concerned, we shall, with your permission, Mr. Editor, overhaul all articles written with motives of profit by patentees of hives, and accept the abuse that follows as a matter of course.

When "rights" are dropped, and patentees turn their attention toward making good hives at a fair price, (and this result seems even now dawning), we shall be ready to drop personalities, having accomplished all that we desired. And the thought of even having contributed a little toward hastening this result, will be ample compensation to

NOVICE.

P. S.—We accept the challenge on page 225, with the most friendly feelings, providing it is undertaken not to see who "licks," but to determine partially which way occupies most time. We believe Mr. Oldt is not a "patent hive man," (those who abuse us are, almost invariably), and so we will accept his simple statement; and we believe the readers of the A. B. J. will, as a general rule prefer *our* simple statement to that of "responsible judges," but we are not over particular. We think the honey should be removed from the hive and prepared all ready for shipping. About five hundred pounds is a comfortable day's work in our opinion for a man, with a woman or girl for an assistant. Katy Grimm did much more than this however, but her days' works we think must have been more than comfortable. If Mr. Oldt can remove the bees without losing or killing any from five hundred pounds in boxes in less than a day, we think he must have some new appliances, or possibly box honey is not as much trouble as we have been led to think; in either case we shall be very glad to hear of improved facilities in handling honey.

[For the American Bee Journal.]

Improved Breeds of Bees.

BY D. L. ADAIR.

In a communication in the April number A. B. J., I attempted to show that we cannot improve our bees by further indiscriminate importations from Italy, and that enough of them had been brought to this country to answer our purposes. I further took the ground that we will have to establish distinct breeds for ourselves, as neither the Italian nor the American bees are uniform in any desirable characteristic.

All living things, animal or vegetable, have a tendency to change their natures. None of our domesticated animals are what they were originally. Our cultivated fruits and vegetables are far removed from their original nature, and are still sporting into new forms, and taking on peculiarities of most remarkable kinds.

Man cannot create or destroy a particle of matter, but he can take advantage of the laws governing matter, and make it subserve his wants. It required no great intelligence in the first tillers of the soil to induce them to select the best of their crops for seed, nor in the first herdsmen to select their best and most easily managed animals to breed from. Jacob seems to have been so well acquainted with this law of variations that he was enabled to change the color of the cattle he had charge of, and spot and stripe them as he pleased.

In a wild state, in their natural *habitat*, these variations are but slight, and soon breed back to the natural type, but when animals or plants are removed and subjected to new conditions, the changes in character are often very sudden and marked. A most notable instance of this is the turkey, which was unknown until the discovery of America. All efforts at domestication here have been failures. It has been frequently semi-domesticated, but even after generations, it has reverted to its wild habits. About 300 years ago it was taken to Europe, where it encountered different conditions of existence—a difference in its food and in climate. The result was, that in adapting itself to the new order of things, its primitive nature was broken up. It varied, and the result was that it was not only thoroughly tamed, but like Jacob's cattle, it changed its color; some became darker, some white, others yellow, while others again became spotted. And the change was so radical that when brought back, it retained its domestic nature, and has not reverted to its wild state.

The potato is a similar instance among vegetables. A little more than a hundred years ago it was taken from Spanish America to Europe. Under new conditions it varied from the insignificant tuber it was, and by cultivation and selection it has been brought up to its present state. It comes back to America so much of a foreigner that we call it Irish.

The honey bee, we have seen, is in a state of variation, whether we take the Italian or the black bee, but unlike the turkey or the potato, man has had but little to do in shaping the change. Until within a few years, man had very limited means at command to do it. In the first place, bee-keeping was locked up in superstition, and in the next place, the workings of the bees were locked up in logs and boxes. The whole thing was a sealed mystery. The discoveries that culminated in the Dzierzon theory unlocked the one, and the movable comb hive gave us the key to the other difficulty.

Until within the last dozen years, a bee was a bee, and no one thought of one bee being better than or different from another. Just then the Italian bee stepped in, and revealed the fact that the law of variations applied to insects as well as to higher animals, and to vegetables; not only that the Italian bees, as a class, differed from our native bees, but that the Italians differed among themselves, and our common bees were not all alike.

Now this condition of things, instead of being a difficulty, is just what we want in order to get superior varieties, and if taken hold of properly, will result in a very few years in doubling the utility of this already most useful insect.

It is not reasonable to suppose that the bee will prove an exception in nature, and we may therefore conclude that it is subject to the same laws that have enabled man to fashion almost at will the whole list of domesticated animals that serve him.

It is probable that most of the improvements that have been made in our domestic animals have been accidental, and were carried out without pursuing any system, or understanding how it was done, merely by selecting the best to breed from, and thus encouraging desirable deviations. But a proper understanding of all the conditions necessary will help us to more speedy success.

Now, the only use we have for bees is to produce honey, and therefore we should cultivate such instincts as will contribute to that end. What are they?

A small colony of bees cannot gather as much honey as a larger one, therefore fecundity in the queen should be increased, and the swarming instinct suppressed. It is estimated that the ovaries of a queen contain the germs of about 500,000 eggs, and when they are laid she dies. If the laying instinct can be cultivated so that all of these can be deposited in one season, instead of extending the period over three to five years, as is generally the case, it is evident that a great advance will be made. But if the swarming impulse is retained, and the colony is continually being disorganized by swarming, the gain will be of doubtful value. All bee-keepers of experience know that there is a great difference in the productiveness of different queens. In every apiary the owner can point out certain colonies that are continually more populous than others. Such should be selected to breed from, and all unprolific queens should be destroyed, and their places filled with others produced from eggs of the most prolific, although the infertile queen should be Italian, and even imported. The tendency to productivess may be encouraged by the treatment that is given the young queens. Their early habits have much to do with their usefulness. When your young queens begin to lay, keep them at it, and never let them stop a day if you can prevent it. If the natural supply of honey gives out, feed—feed all the time and never let the queen be at a loss for empty cells in which to deposit her eggs.* Throw away your hives of 2,000 cubic inches capacity, and put your bees in hives of double that size; for you cannot put a gallon into a quart measure, and so long as you keep your bees so pent up, the queen will be prevented from developing her full capacity. The Chinese make dwarf trees by planting them in pots, and so confining the roots that they cannot expand, and thus after several generations, produce apple and peach trees, and even the oak, that bear fruit when only a foot high. The greatest injury, no doubt, that the productiveness of bees has sustained, has been occasioned by the Procrustean hive of 2,000 cubic inches. Mr. Gallup, in the A. B. J. for August last, says, "When I read in a small pamphlet of Mr. Adair's that a queen would occupy a hive of 4,000 cubic inches, with brood, * * * I thought Mr. Adair's climate was different from ours, or he was mistaken. Somebody was mistaken, and instead of crying out liar, etc., we went to work to find out where the mistake was; and we soon found that, Gallup was mistaken."

If you want to improve your bees, don't put them into "$1 hives," for that will not pay for material enough to build a hive to accommodate a prolific queen. It is false economy to buy anything that does not suit you, because it is cheap; besides, if you want to control the swarming instinct, your bees will never vary their instinct in that particular, so long as they are in such hives. They have already been too long subjected to the Chinese method of dwarfing.

Another rule should be observed. Raise your queens at that season of the year when your colonies are the most industrious and populous, and from the youngest queens you have, that are prolific, that they may inherit the vigor of youth, and not the exhaustion of old age.

Next to fecundity, perhaps, the most desirable thing is quietness. If the bee could be deprived of the stinging instinct, a new impetus would be immediately given to bee-keeping, for a large majority of persons are deterred from engaging in the business through fear of being stung, while many who have bees fail to give them the proper attention from the same cause. Fortunately we find that this instinct varies in different colonies of bees. The gentleness of the Italian bee was urged as its principal recommendation by the first introducers, and many queens that have been imported produced a gentle progeny, but only under favorable conditions, while others, with equal claims to purity, were vicious and unmanageable. The gentleness of the Italian bee is not docility, it is more of a stubborn cowardice. When disturbed, they immediately retire to the recesses of the hive, and instead of sallying out to drive the intruder off, they stick themselves tenaciously to the sheets of honey and brood, as if determined to defend their stores behind the walls of their castles. The bee-keeper who has used the melipult well knows what an objection this is to the Italians as a class, and he who has attempted to "drum" them out, knows they are too stubborn to drive; while the American bee, in all its varieties, if it fights at all, is willing to come out of its entrenchments, and when subjugated it can be driven about at pleasure. On that account, I would prefer the native bee. Many of them show no more disposition to sting than do the gentlest of the Italians, and if it can be shown that they vary to as great an extent in productiveness, I believe a more desirable breed could be produced from them.

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* On this principle short-horn cattle have been caused to acquire the habit of rapid growth, so that in two years they will attain the weight of four or five years-old steers as formerly raised, and after a few generations the habit became so established that their character in that respect became permanent.

At the last meeting of the North American Bee-keepers' Society, the opinion was expressed that the existence of the bee depended on their stings, and they could not be entirely deprived of the instinct to use them. This assumption can hardly be admitted as true, for all of the indigenous species of bees of America, North and South (that is, the *Meliponas* and *Trigonas*), are stingless, and many races and varieties of them have not even the protection of a hive, gum or hollow tree, to shield them, but hang their combs and stores on the limbs of trees. Still they have continued to exist and prosper. I not only believe that it is possible, but I would have no fears of their becoming extinct, even had they no stings. Physiologists tell us that the horns of cattle, the tusks of elephants, and nearly all the weapons with which animals are armed, are imperfections or deformities. Some breeds of cattle, as the Galloway, are without horns, and others have only the rudiments of them, merely attached to the skin, and not sheathing a bony core. And so easy is it to alter the shape and size of the horn, that in the finer breeds of cattle, breeders can do so to suit their fancy, or can obliterate them enterely.

In one instance, I had a natural swarm of bees to come out, whose queen's wings were clipped. She could not fly, but crawled off in the grass. Some of my children, barefooted, were assisting me in hunting her. A great many of the bees were crawling about in the grass. I asked the children if the bees did not sting their feet. They said they did, but that it did not hurt. In parting the grass, I had a number of them to sting me on the hand, and found that what they said was true. On examination, I found that their stings were very small, and many of them so soft that they would not penetrate the skin. It is very likely that if wide and careful observation was made, this would not be an isolated instance of a tendency to get clear of a useless appendage.

About the same time I had another instance of a similar variation in the bees of a colony, not as to the sting, but at least half of the bees were produced without wings, or with only the smallest rudiments of wings. On looking into the hive, they could be seen running about like monster ants. While young they could build comb and nurse the young as well as if they had wings, but when they became old enough to go out to gather honey, of course they were useless, and as but few could be seen crawling around the outside of the hive, it is to be presumed that they wandered off in the grass and were lost. The mother of them had her wings clipped short, as it was my custom then. Whether the wingless condition of the mother had anything to do with producing the same condition in her offspring, is a question worth considering in this connection, as, if true, it would indicate a means by which the sting might be removed by clipping the sting of the queen.

I have seen it stated, and have been told by persons who said they had tried the experiment, that if the tails of dogs be cut off for several generations, a tailless breed may be established. We know that there are families of dogs that are born without tails. If it is the result of such treatment, why may not the wingless bees have been the result of repeated clippings of the wings of the queens? And if one appendage may be thus destroyed, why not another?

The supposition is not inconsistent with physiological laws, for we have instances in the human family where accidental deformities have been transmitted from parents to children.

Another undesirable instinct is that of swarming. In a state of domestication there is not only no necessity for it, but it is positively injurious. With proper management it can be prevented, and if prevented for a time, longer or shorter, and the necessity for it removed, it would disappear as other wild instincts do, under domestication. Swarming is the result of abnormal conditions, such as I have explained in "Progressive Bee Culture," and in a wild state is forced upon them by necessity, and in pursuance of the law of adaptation, by which instincts are developed or repressed so as to accord with surrounding conditions. The eyes of fishes in caves are never used, because the conditions will not permit, and consequently they dry up, and the skull openings are closed. Instincts are governed by the same laws, and are repressed by non-use.

When this much is accomplished, by way of ameliorating the wild nature of the bee, there would, perhaps, be one more difficulty to surmount, and it is not improbable it would follow the changes already suggested, without other aid. We would then want to remove the antipathy that one queen has to another, so that several could be kept in the same colony. In modifying the temperament of the bees, the queens would no doubt share in their civilization, so that they would live together in amity.

Mr. F. Smith, of the British Museum, inclines to the opinion that a colony of *Trigona* contains several queens at a time, as "the multitudes inhabiting some nests are too great to render it possible that one female could produce them all. Mr. Stretch describes a hive that he saw that measured six feet in length, occupying the interior of a decayed tree, and the multitude of bees he compared to a black cloud. M. Guerin found six females in a nest of *Melipona fulvipes*. (Packard.)

The Melipona and Trigona are indigenous to Mexico and Central and South America. There are many species of them. The colonies of many are very numerous. They are stingless. Some build in the hollows of trees, others in the ground; some suspend their nests from the limbs of trees, and at least one species constructs its own hive of clay, it being of very large size. (Smith.)

If these tropical bees can exist under such circumstances, why could not our *Apis mellifica?* And when perfectly domesticated and made by cultivation as harmless, is there any reason why several fertile females could not inhabit the same hive?

There is, perhaps, no plant grown that yields honey more abundantly than the red clover, but on account of the long tubular carolla in which it is secreted, it has been up to this time inaccessible to the honey bee. When the Italians were first introduced, it was stated that their tongues were long enough to reach it. Except in rare instances, the statement has failed to be verified. Occasionally, on the second crop, some flower-heads fail to develop their normal size, and a few bees work on them, but I have yet to hear of their doing so to any great extent. Mr. Dadant, of Illinois, suggests, in the "Annals of Bee Culture," that by proper selection of seed from only such heads as the bees have been seen to visit, and repeated selections from sowings on poor ground, a variety of clover might be produced with flowers so small that the honey would be accessible to the bees. The suggestion is plausible and a good one, but it would be better if we could increase the length of the proboscis of the bees.

I had once a colony of gray bees that worked freely on red clover whenever it was in bloom, and stored great quantities of honey gathered from it, while no other bees resorted to it. I Italianized them, and lost the opportunity of profiting by encouraging so valuable a variation, and at the same time spoiled what I now consider the most valuable stock of bees I ever had.

In adapting the bee to our wants, this desirable deviation is probably not beyond our reach. When bees are seen on the red clover, they should be tracked to the hive, which may be done by sprinkling flour on them, and observing what hive they go to, and propagating queens from such colonies.

Mr. F. Smith, in a paper on the Brazilian Honey Bees, read before the Entomological Society of London, 1863, says, "The honey of the species *Mombuca* is said to be black and sour, the quality being dependent on the species of flowers from which the honey is collected. This great difference in the honey of the various species is apparently confirmatory of the fact that each species confines itself to particular flowers, never visiting any other kind. The different relative length of the tongue in the species is also confirmatory of the same supposition; indeed, the great diversity in this respect observable in these bees, appears to me to be analogous to a similar diversity in the length of the bills of humming birds, which, it is well known, are always adapted for reaching the nectaries of the particular flowers which they usually frequent."

This variation in taste, in the Italian as well as the American bees, has been observed. At the same time, two colonies of bees, side by side, will be gathering quite different honey. When that is the case, it is likely that investigation would show that the diversity is occasioned by a difference in the length of the tongue, and does not result from a preference of the bee for one flower over another.

Many of the suggestions I have made will, no no doubt, be considered absurd and ridiculous by some, but while they may not all be realized, I am satisfied that intelligent and patient effort will be fully rewarded, and that we will be fully compensated for any disappointment by developing even more valuable characteristics. The alchemist, in searching for the philosophers' stone, developed the science of chemistry, of many times more value than the object sought for.

D. L. Adair.

Hawesville, Ky.

[For the American Bee Journal.]

Last Word About the Bay State Hive.

One word more as to the Bay State Hive, and I promise to be silent forevermore—on that subject at least.

Novice (in his February bulletin), in reply to my question, "Why don't you try a Bay State Hive?" says, "Because it embodies no essentially different principle from Hazen's or Quinby's, and we are trying one of the latter," etc. Now I cannot speak as to Hazen's hive, but I have one of Quinby's, and I know from an experience of two years that there *is* an "essential" difference between them. One that the quick wit of Novice should have discovered long since, and one that I am sure his candor will promptly allow when it is pointed out. The essential difference is this: In Quinby's hive the frames run from front to rear, and consequently are at right angles to the boxes. To work in the latter, the bees must turn abruptly, as it were, from their line of work, and as I have proved from painful experience, they are very loth to do this. In Alley's hive, on the contrary, the frames run from side to side, and consequently the bees pass readily to the boxes without angle or turn. It is exactly in their line of business you see to fill the boxes in the Alley hive; it is an entirely new concern to fill them in the Quinby hive.

This is no simple theory. For two years past I have had both hives. In 1871 most of the boxes of the Alley hives were filled; in 1872 *all* were filled—but in the Quinby hive I had not a single box filled in 1871, and in 1872 only two boxes were filled. This is the whole truth, and I feel bound to give it without fear, favor or affection.

B. I. B.

Polk County Bee-Keepers' Association.

ESSAY BY MR. GALLUP.

The meeting of the Polk County Bee-Keepers' Association yesterday, was fairly attended. After the transaction of some preliminary business, Mr. E. Gallup, of Mitchell county, read the following essay on

ARTIFICIAL INCREASE.

The subject presented to us for discussion is:—How is it possible to increase our stocks as fast as some speak of doing. Mr. Hosmer's statements have created quite an anxiety on the part of the uninitiated in regard to this matter. We have known one instance of an increase of 125 stocks from one in two seasons. The largest increase from one stock in one season that we ever made was twelve, and all were in good condition; all wintered on their summer stands. We made five from one, after the 20th of July, the first season that we commenced in Iowa, and all wintered through in good condition. But this is not explaining how it was done. In the first place we must have a good locality and a good season, so that there is a continuous flow of nectar (throughout the entire season) from the honey-producing plants or flowers of the locality, or our bees cannot even build the comb, let alone raising brood and storing honey for wintering purposes. True, we can feed artificially to a certain extent, but food from natural sources is the best. Then we must supply every division of bees, whether a large quantity or small, with a good fertile queen. And again, we must confine our bees to a space in the hive suited to the quantity of bees. If we only have bees enough to occupy two combs, we must not give them four. We will now quote from Mr. Hosmer. He says remove all comb that the bees cannot cover. Make the entrance as small as possible to give the bees room to pass in and out, and keep them as warm as you can. As soon as the bees increase enough to cover more comb, set in one sheet at a time (or an empty frame) and place it in the center between two sheets of brood, &c. (See *Bee-Keepers' Magazine*, Vol. 1, No. 1.) There are many methods of accomplishing this increase. But we shall endeavor to confine ourselves to the general principles that must be kept in view whatever method we pursue in its accomplishment. Now there is another item that must not be lost sight of. In making all our divisions we must secure a proper proportion of the different classes of workers, or we shall make a failure on the first start. Allow me to explain: Working bees at a certain age are capable of performing certain labors in and about the hive, and they are incapable of performing any other labor at that certain age. Now, if we take all nursing bees we have no wax workers; if we take all wax workers we have no nursing bees; and if we take all old bees we have neither nursing bees nor wax workers. The reader will readily see why many novices fail entirely or partially in making artificial swarms. A natural or prime swarm of bees, let it be larger or smaller, is invariably composed of the proper number of each class of bees, or, in other words, it is a perfectly balanced colony. There is the requisite quantity of nurses, wax workers and outside laborers to carry on all the labors of the hive, without one class interfering with the other in the least. We must have young or nursing bees in any colony, in order to meet with success. For it makes no difference how good a queen we have, she cannot produce eggs without food, and in order to produce eggs abundantly, she is fed on concentrated food, prepared in the stomachs of the nursing bees. If the reader has understood me thus far, he or she will readily see that in a good locality and a good season, with the proper understanding of the subject we can increase the stock sufficiently to satisfy the most fastidious. A stock of bees should always be confined to a space in the hive suited to the capacity of the number of bees, and then what comb there is can be occupied with eggs, and it can be kept warm by the bees so as to hatch and develop to a perfect bee. But if we place a small quantity of bees in a large space they can do nothing, and consequently they amount to nothing, To thoroughly test the matter, we have taken a quart of bees, one comb and a good queen, and built them up to just as profitable and strong a stock as we had in our yard. But the novice in the business had better make haste slowly, and especially in poor seasons or poor localities. If I understand this matter rightly, Messrs. Hosmer and Gallup are blessed with extra good localities, and especially is this so in ordinary seasons. With my present knowledge of the business, and such seasons as we had in 1870 and 1871, if I devoted my time to the business, I would not be afraid to warrant from ten to sixteen of an increase from every good stock in my yard. But a large increase and a large yield of surplus honey will not both come in the same season. Recollect that you must keep the animal heat concentrated in a compass small enough to suit the quantity of bees, and you are all right. If you hurry too much you spoil the whole. We will here state that the stock that we made five from one after July 20th, on our first commencing in Iowa, was in an old box hive. In the spring I had an old superanuated queen and less than one quart of bees. It is stated that Mr. Hosmer, in 1872, increased 24 stocks up to 143, and took 2,206 pounds of surplus honey from them. Now, as we understand Mr. Hosmer's locality, he gets his surplus honey from basswood, which blooms in July, and consequently made a part of his increase before and a part of it afterwards. That is after he got his surplus, and his increase was about six to one or five from one, which would not be a large increase for this locality, that is when properly done artificially, supposing the season to continue up to October, as it did in many localities. We have had natural swarms come out as late as the 20th of September, and fill their hives with comb, brood and honey, and winter as well as any stock in the lot, since we located here. Then the reader must understand that Mr. Hosmer with his management, after taking his surplus, had comb and honey ready made to make at least two standard stocks from each one. I got 1,600 pounds of surplus from twenty-four stocks, and said stocks more than doubled their quantity of comb, and gave the 1,600 pounds in just eight days, and my locality did not begin to come up with Mr. Hosmer's the past season. In fact, with me it was the poorest season that I have had in the eight years that I have been located in Iowa.

Following the essay was an extremely interesting discussion of the subject presented, and the Society adjourned till the regular meeting in March.—*Iowa State Register, Feb. 1st, 1873.*

[For the American Bee Journal.]

Postage on Queens.

MR. EDITOR:—The legal rate of postage on queen bees, when sent by mail is a matter of some importance to all apiarians, and of especial interest to queen venders. We have laws by which seeds, bulbs, plants, and other articles of like character, may be sent by mail at almost nominal rates, and this is right. But may we send and receive our queens at similar rates?

During the last two seasons I have sent out by mail a good many queens, but have been required by our Post Master to pay on them full letter postage rates.

He claims that there is no law, or rule of the Post Office Department, that authorizes them to be sent at less rates. Our Post Master is an intelligent gentleman, has held the office for many years. and should understand his business. Is he right? This is the question I am now propounding.

While I have had to pay full letter postage rates, usually about six cents on packages containing single queens, I have received queens from other parties, in packages much heavier than mine, with only two cent stamps on them. This difference will amount to several dollars in the course of our season, to parties sending out many queens. It is a matter worth looking into. If we have laws, allowing them to be sent at less rates, we should have the benefit of them. If there are no such laws, we ought to have them, and that speedily. The attention of national legislators should be called to this matter.

M. C. Hester, Charlestown, Ind.

* * *

[Translated from the Bienenzeitung.]

The Italian Bee.

In unpropitious years one learns the worth and superiority of many of the productions of nature, which in good years are not so apparent, owing to the abundance of the yield. It is thus with the Italian bee. I admit that I did oppose the introduction of that bee. Yet the past year the worst we have had in thirty years, has altered my opinion. Now, from the fullest examination, I believe the Italian to be the race most suitable to Germany. Whether those Italians reared artificially by Herr Vogel, are equal to the native Italian, is yet in my mind, a matter of doubt. The appearance is there, but that does not make the Italian bee. In the spring of this year, I had sixteen stands alike as to numbers and quantity of food. Four of these were Italians, and the remaining twelve German bees. During the fine days of March, they all flew alike, and my hope was consequently much raised to obtain this year a large yield. Then came the bad days of April. Were there some few good hours during the day, they were invariably followed by cold winds or wet weather. With the opening of April, my sixteen stocks, during propituous moments flew strong.

But what did I live to see? All the paths of the garden, and the ground around the hive, were covered with German bees, yet no Italians were to be found among them. I then watched the fly-holes. Out of all the hives, many bees flew, the Italians however alone returning. It was a rarity, did the German bees return to the hive. The natural result was, that the German stocks were becoming weaker and weaker, while with the Italians, there was no diminution apparent. Further, by the end of April, the German bees had no brood, while the Italians were rich in brood. May was like April. My German stocks had become so weak, that except in the warm hours of the day, not a bee was to be seen. The Italians on the contrary increased in strength from day to day, and by the end of May began building comb. Long before this I began to feed the German bees, so as to keep them alive. On the tenth of June, the raspberrys began to bloom. The weather became warmer. The Italians began with their whole strength to gather from the raspberrys. The weak German stocks were able to gather little. On the twentieth of June the Acacia began to bloom, but its blossoms were not as rich this year in honey, as they had been in former years, the frost having destroyed fully one half of the blossoms. The Italians now developed daily a stronger flight, as the young bees made their appearance. After eight days, they ascended to the surplus honey rooms and built them half full of comb. The German bees now only began to have large supplies of brood. When on the eighth of July, the Linden began to blossom, and the Italians were so strong, that I began to expect them to swarm. The German bees had also, become stronger, and were laboring rather industriously on the Linden, yet the most of the honey brought into the hive was used for feeding the young brood; there was none stored of any account. With the end of the Linden blossoms the harvest was practically over; still the German stocks continued to increase in numbers so that by the end of August, they were over populous.

The Italians had at that time filled all the honey room with honey, about thirty pounds, and in the brood chambers there was a superabundance for winter use. When at the end of August I inspected also the German stands I was astonished. All the stocks were in arrears, so that in order to winter them I had to feed them strongly.

Had I only Italians, the year 1871 would have been for me a good ordinary one, as four stocks of this species would have given me a yield of one hundred and twelve pounds of honey.

Henceforth I will more and more Italianize my apiary, and request all opponents of the Italian bee, to test my experience in their own apiaries; as I was also an opponent myself, but have been perfectly cured.

Klein—Glienicke near Potsam. Viebeg.
Nov.18,1871.

* * *

[For the American Bee Journal.]

All Old Bees.

Mr. Editor:—It appears that this memorable bee disease question is not solved yet, and probably never will be. I have given a description of how my bees fared through the winter of 71–72, and now for this winter. To-day, March twenty-fifth, they are without exception splendid, fourteen in number. Mind you one feels no ordinary joy and gladness after such a visitation as the winter before this, when it resounded from every part of the land with an echo ‘ my bees are dead.'' I hope sincerly that the readers of the highly prized American Bee Journal, may be blessed with the general surprise of finding their pets all right with abundance of young bees and brood, as is my case at present. Even the "all old bees" theory must surrender as being the cause of the fatal dysentery of a year ago, for which there is not one particle of foundation. My experience proves it. August seventeenth, I removed a stock of bees to a new stand, supplied the bees on the old stand with full compliment of comb with sealed honey etc., their queen I put in a cage for near four weeks, so not a bee was raised, and there were no other bees but what found their way back to their old stand. I liberated the queen and found after that no brood was started and no bees raised. On the eight of November, I removed them to the cellar, of course they were not powerfully strong, but as for numbers or quantity of bees I had no aprehension of failure. On the seventh of March, with the thermometer 50° they enjoyed a good hum, and on examination I found brood on three cards 6x8 inches square, the bees quite evidently considerably stronger than when put in winter quarters, and no more dead bees than in any of the others, four or five of which had not as much brood as these.

They had the least dead bees, and the most brood under way I ever had the good fortune to witness in four years, after five months confinement. The greatest drawback the winter before, as I believe now was the want of bee-bread of which they have abundance now, kept the bees from breeding early. In fact I never found bees the middle of March without bread except last year, which accounts for bees having died in the month of May, when apparently all right before that. Consequently I had great trouble to save mine, not an old bee I had left by the fifteenth of May. My Italian showed this, having a queen introduced in October previous.

C. Wurster.

[For the American Bee Journal.]

Cheap Hives, or Simplicity Simplified.

Mr. Editor.—You can buy a steam engine for a dollar, or else newspaper advertisements are unreliable. You can buy a printing press for a dollar, or else the advertiser is a deceiver. Now why don't you invest two dollars, get both, and do your own printing? You could make it very profitable to do so, and could afford to reduce the price of the Journal to about seventy-five cents a year. I am not joking, for I see those articles advertised at those prices. There used to be a man in your city who sold microscopes at twenty-five cents each, and paid the freight on them. You can now buy a sewing machine for five dollars, that will sew any kind of seams, hem, fell, tuck, gather, work button holes, and do anything else that a one hundred dollar machine will do, on any kind of material, from mosquito bar to leather, shingles or tin; without cogs, bands or any little wheels to get out of order, and any child, three years old, can run it. That is what the advertisements say.

Now, after you supply yourself with all these conveniences, I would suggest that you go into another little speculation, for you have been, no doubt, keeping your bees in very expensive hives.

You have been using hives, that the frames alone, cost you nearly as much as a steam engine, and have gone to as much expense in painting one of them as would buy a microscope, You have also been so extravagant as to invest another microscope in a quilt honey *board.* You have done another foolish thing or two, for you spent 10 cents for a door strip for your bees to walk up on, 40 cents for tin corners to your frames, 10 cents for metal rabbets to hang the frames on, and even wasted some nails and spent as much as 35 cents in work in putting all together. When you sum all these up, you will find that you have invested a printing press, in addition to the steam engine and the microscopes. You have also been using a two story hive, when it only takes one to make a hive, and have been paying for "the lumber cut ready to nail" 90 cents for each story. In all you have spent on a single hive almost enough to pay for one of those unequalled sewing machines, and if you would buy the sewing machines "in large quantities," like some bee keepers buy their lumber, you could no doubt get two sewing machines for what you have been paying for a single hive.

Now would it not be better for you to buy the "*Simplicity Hive*" advertised in your Journal? It just costs the same amount of money that one of those first class steam engines or printing presses costs, and is equally "simple" in construction. It is like the $5.00 sewing machine. It has no cogs, bands, or little wheels to be getting out of order. It has no frames to be getting twisted around *catterawampus*, and bothering a fellow, so that he will have to go to the expese of getting metal corners to stay them. It has no bottom board to harbor moth worms. It has no honey boards, quilts, pillow cases, nor door steps to it. Why, sir, it is the perfection of "simplicity." It is splendidly "simple." Besides all that, it is not gaumed over with your nasty paint. It is the clean, virgin wood, and the great beauty of it is, that a very small child or two can manage it as easily as they can that sewing machine. Yours in

Sim Plicity.

P. S. I forgot to say, that you can save $10.00 on each hive by not putting any bees in it, and that will buy four steam engines and six printing presses, or if you have two wives will buy each one a sewing machine. Sim P.

Nota Bena. You need not be bothered with this terrible bee disease, for if you don't put bees in the hive, they won't die with it.

S. Plicity.

P. S. N. B. If you don't think this too much like an advertisement for the "$1.00 store," I would like for you to publish it, for the benefit of your "simple" subscribers. S. P.

Addenda. I have some notion to go into the manufacture of the "Simplicity" Bee Hive on a large scale. With a four hundred dollar wind-mill, elevated on a tower 55½ feet high, I think that I can get power enough to make bee hives for the whole world. In order to bring them within the reach of all, I propose simplifying the "simplicity" hive by leaving off the sides and top, and selling them at a nickel a piece, or in large lots, at a dollar per hundred, and I will recommend in the next number of my paper, "*The Cleanings* out of Bee Culture," that the sawdust pile be dispensed with, as there is danger of fire, or if it is used, I will advise the purchase of a fire extinguisher, to be on hand in case of conflagrations, and as a good thing to settle bees.

Simeon Plicity.

The Old Bee Theory.

In a late number of the Journal, J. W. Hosmer says, he thinks the great loss of bees during the winter of 1872, was caused by too many old, and a want of young bees. I have to say, that I do not believe it. If so, why did stocks which worked all through September and half of October, and carried on breeding until the middle of November, and went into winter quarters, strong in numbers, and these nearly all young bees, nearly all die; while two miles distant, where they ceased work the middle of July and breeding much earlier than in the other case, yet these all came out in good order, and have done the same thing in the same territory in both cases again this winter? I answer as follows: Those that worked late gathered honey dew, and much of it was unsealed when cold weather came on. In the other case they had none of it.

But to make a little stronger case against the old bee theory, I will give one or two experiments in the matter. In September, 1872, I removed the queen from a stock of black bees for the purpose of giving them an Italian, but they let her starve in the cage through negligence on my part, and then reared one to suit themselves, but she was worthless and lost. After the brood had all hatched, I took the bees all out of the hive and put them in an empty cover, and moved it about one rod, leaving it three days, the bees being queenless. All that knew where to go went back to the old hive. I then gave them a queen, but it was so late that they reared no brood that fall. The younger bees not knowing where else to go, remained in the empty cover and received a queen. I then put them in a hive containing six frames, with enough honey to winter them. I now had two stocks, one composed of old bees having their own honey, the other of young bees with honey from other bees. The old ones wintered finely, without any signs of dysentery. The young ones died with dysentery long before spring. The same winter I put a nucleus hive into the cellar and fed them with sugar syrup for about six weeks, and they were as small and lively as when put in, and raised a lot of young bees, but becoming tired of feeding them every day, I went to a hive and cut out a piece of sealed honey large enough to fill one of the frames in the nucleus hive and gave them. In less than a week they began to look bad and in a few days were dead with a malignant form of dysentery, and the swarm from which I cut the honey followed suit in a few days. The winter just past has been the worst I ever knew for bees. They gathered honey-dew again, and bred late, even after cold weather set in. The stuff (for I cannot call it honey) was unsealed much of it, and soon became thin and watery, and wherever the bees had access to beech timber they are, in many apiaries, all dead. In others, one in ten alive. Two miles north or six east, I never saw bees in finer condition, although they did not work as late, in some places doing nothing after July 10th, and have been exposed to the same kind of weather with no protection, but they lacked one essential element of dysentery, viz: honey dew.

Hosmer says that some one's bees were saved because they were carried out of the cellar, and allowed to fly out, and commenced breeding. Well, I have lost ninety stocks, and they nearly all died with lots of young bees hatched and more hatching all the time. Some of them had four frames filled with brood in all stages, and thousands hatched, yet they died sooner than others which were not breeding any, and I think no worse thing can happen to a colony of bees than to have great numbers of young hatched in January, unless they get out and fly before they are very old. At least such stocks are the first to die with me. I have had dozens of them this winter that were healthy until they began breeding, when they died off so rapidly that the brood would be left without bees to cover it. There has been several days during the past winter that were just warm enough to let the old bees fly, but the young ones wont come out unless it is very fine, and I think that a flight which does not include the young of a hive, does but little good so far as preventing dysentery is concerned. If any one thinks otherwise, of course that is all right, but if they will notice a young bee when it first comes out in summer, at about eight or ten days old, according to the weather, they may generally see a bee as much distended as it should be by a six weeks confinement of an older bee in the winter season. If to this you add poor honey, and keep that bee confined two months or more, how can it live? I have wished many times to see honey dew in the fall, when my bees were doing nothing, but now have to say that I have seen the elephant, for two seasons, and hope to never see it again while I am in the bee business.

Having lost 190 out of 200 stocks in the past two winters, I consider this paying rather dearly for the sight. I think this letter is about long enough, but I have been wanting to let friend Hosmer know that all did not agree with him on the old age theory. I suppose that Hosmer will have something ready to upset my assertion that young bees are more liable to die than old ones, if they cannot fly out, but I have wintered colonies from November to April, without a queen, and then given them a queen, and had them fill all the boxes and swarm almost as early as any of those that nursed their queens through themselves.

E. M. Johnson.

Mentor, Lake Co., O., March 12, 1873.

[For the American Bee Journal.]

Non-Swarmers.

Mr. Editor;—I have known people to give as high as sixty dollars for a bee palace claimed to be a non-swarmer, and to assign as a reason for it, that they only wanted to keep just enough bees to get honey for their own use, and as the Langstroth and all other patterns would swarm, they could get no good out of them. I have also known such palaces to stand empty for years, the bees not being able to winter in them. I have known but one that would not swarm that did the owner any good. It was merely a common box hive, set in a little dark room, four by eight, five feet high, double walled. The bees in this died this winter, for the first time in sixteen years.

The New Idea hive, by Adair and Gallup, I believe, will practically prove a non-swarmer. I have made a few, and will try them the coming season. I think that where the extractor is used, and swarms are not desired, and where comb honey is wanted for family use, these hives will prove the best I know of. But where surplus honey in caps is wanted, I think the Langstroth the best. I send you Adair's description of the New Idea, for the benefit of those who wish to try it the coming season. How to manage it, they can see described by

Gallup, in the March number of the Journal, page 215. R. M. Argo.

Lowell, Garrard Co., Ky.

NEW IDEA HIVE, WITH FRAMES.

Bottom-Board.—This is best made of narrow flooring boards, tongued and grooved, but may be made of a single width of inch plank, four feet four inches long, sixteen inches wide, nailed on to two or three sills, fourteen inches long, one and a half by three inches. A strip, one by three inches, four feet long, is boxed on the ends of the sills, under the edge of bottom-boards, and edge of bottom-board nailed to them to prevent sagging. Chamfer or slope off front end of bottom-board, two and a half inches back, for alighting board, and cut entrance holes in bottom board, if preferred, instead of in the case.

Case.—A box with only sides and ends, without top or bottom, four feet long inside, and width of bottom-board outside. Set on bottom board. A portico may be added by extending the sides half their width, sloping off and covering. Make it deep enough for the frames you decide on. Glass in the ends, covered by shutters, is a great convenience.

Frames.—I have experimented with many sizes, and I would, under no circumstances, make them deeper than ten inches, inside, nor wider than thirteen. If deeper, add two inches to the width for each additional inch in depth. If less, in same proportion. See "*Progressive Bee-Culture*," page 9, "More-Room," and what follows, for reason.

Honey-boards.—Have four honey-boards, each to cover one foot of top. The object in dividing the honey-board is that they are more easily worked, and you can open a part of the hive without disturbing the balance. You can open the rear end without stopping work in the front, and you can drive all the bees away from the uncovered part, so that there is no danger of crushing any in putting on.

Roof.—The easiest way is to make a frame of inch plank, two inches wide, for side pieces; the end pieces arched up two or three inches. Cover with plastering lath, touching each other, over which, after wetting, stretch common roofing paper, and nail close with saddler's tacks, six or eight ounces. After the paper dries, give two good coats of white lead paint, and it will out last wood, as it neither shrinks, swells, cracks nor warps. I have paper roofs, now four years old, that are as perfect as when made. The best paper is made by C. J. Fay, Camden, N. J., but a cheaper article can be had of A. V. Dupont, Louisville. Common flour-sack paper, if doubled, with a coat of white lead between, and well painted, makes a good roof, and can be put on with paste.

Most of my hives have shingle roofs, with comb in middle and eaves on sides, nailed on light frames.

The best and most convenient roofs I have, have the eaves at the ends, and are in two parts, hinged in the middle, at the comb, so that one half can be turned up on the other. A little cap covers the joint. To carry out the New Idea perfectly, it is important to have the entrance holes in the end, and only at one end. See *Progressive Bee-Culture*, page 19. D. L. Adair.

[For the American Bee Journal.]

Our Question Department.

Mr. Editor:—I was just going to ask why some of our knowing ones did not answer the questions in the February number. I wrote the heading, then turned to the March number to be sure that there were no answers, and beheld the editorial "Too Kind," but am not sure the "tornado of communications" will cover *that* ground.

Answer No. 1. Bees usually commence breeding rapidly in February, and not unfrequently winter out with comparatively no dead bees left in the cellar or room.

No. 2. No; but the thickest honey will settle in proportion to its thickness, and not color or flavor.

No. 3. Yes, when there is no honey to gather.

No. 4. Yes, when queenless, or when the aparian lacks the ability or time to equalize them. All are not skilled like Hosmer.

No. 5. Yes, those functions appear to be nearly, if not entirely, under their control.

No. 6. What would have become of us if we had never been created?

No. 7. Take one or two cards from each colony, substituting empty comb, more or less, according to your ability.

No. 8. There are various causes which cannot be explained in this article, but a good card of brood will prevent it.

No. 9. To put in genuine honeycomb, stick to the flat surface of the top bar with wax and resin.

No. 10. Still an open question.

No. 11. Let him who knows tell us.

No. 12. None except uniformity. Italian queens may be bred from "grades," which our experts will pronounce extra, until they see their stock; hence the novice has no more security against imposition than farmers have in purchasing young fruit trees from nurserymen or dealers, unless queen-breeders are more scrupulous, which is a question to be considered.

O. O. Wait.

West Georgia, Vt.

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[For the American Bee Journal.]

Wintering Bees.

Mr. Editor:—I have kept bees many years, for the purpose, mainly, of studying their habits. I have found it a delightful recreation, with few disappointments; but this last winter is an exception. I have lost a few stocks, and after a close examination of the hives, my experience may be of service to others. My hives were all of the Langstroth pattern, with regular combs well filled, that is, sufficiently supplied with honey, and the queens not over two years old. We have had an intensely cold winter, from November to March, with perhaps four or five days at intervals when the bees could fly. The hives were in the open air, and tilted at an angle of 30 degrees, (about), so that the moisture might run out and the debris roll to the front so as to be easily removed. Upon opening the hives in which the bees died, I found plenty of honey along the upper portion of the frames, and also winter passages, but the bees had evidently not been able on account of the continued cold, to remove from one cell to the other, and so perished. I never lost bees in this way before, neither do I ever recollect such a winter; but it certainly is a discouraging feature in forming large apiaries, if one severe winter is likely to entail such a heavy loss. I have come to the conclusion that in Northern latitudes we must adopt the tall hives, in contradiction to those which are broad and flat.

Another fact was noticeable—the absence of bee bread. This may have been the result of a very hot summer, and hence the number of bees was not large. Allowing that there was honey sufficient, there seem to be three things requisite in order to carry bees through the winter in a healthy state at the North. 1st, a queen comparatively young; 2d, a good quantity of brood in the fall, with plenty of bee-bread ; 3d, a tall hive.

It may be said that the evil might have been avoided by placing in a dry cellar, with an even temperature a little above freezing, but it is doubtful if bees could stand such long confinement.

All my hives are much soiled at the entrance, even though the bees are doing well at this date, March 10th.

Has the experiment ever been tried of taking the hive into a warm room, and after surrounding it with a net, allowing the bees to fly?

Some such device, though involving some trouble, might be successful. D. C. Millett.

Holmesburg, Pa.

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[For the American Bee Journal.]

Rape as a Honey Plant.

Mr. Editor:—I see nearly in every Journal and bee paper, a report of some new honey plant; but what is the use of experimenting with new plants when we are neglecting an old and well tried plant, one on which we can figure the dollars and cents just as well as on wheat, corn, or any other crop, As it is not only a honey producer, nor a noxious weed, as most advertised honey plants are, but is a regular farm crop, it is for several reasons the best crop to raise when a return in honey and seed is desired.

First, As a honey producing plant, the rape is scarcely second to linden, producing a beautiful golden honey of good flavor, and is in blossom when nearly everything else is out of blossom, commencing about the middle of August and continuing a couple of weeks.

2d, As a farm crop, it is as good, if not better, than wheat. The time for sowing it is from the middle to the end of June. This gives time to prepare the soil after other crops are in; or if wheat or corn should fail in coming up, rape can be sown in their places. It is harvested from the middle to the last of September, after all other grain is harvested. It does not impoverish the soil, but benefits it. From five to eight bushels more per acre of wheat are raised on ground which had rape the previous year. It allows no weeds to grow after it is fairly started, growing very dense, and its leaves completely shade the ground, therefore it does not suffer from drought like other grains.

The seed has a good cash market at Fond du Lac, Wis., where oil is extracted from it, and brings from $1.50 to $2.00 per bushel. From ten to eighteen bushels is generally produced per acre, but is oftener over than under this estimate. Two quarts is sufficient to sow an acre. Thousands of bushels are annually raised in Calumet county, and it is just as staple a crop as wheat. Those doubting my statement I refer to Report of Agriculture for 1870. If any of my brother bee-keepers wish to try the rape, send 50 cents and I will send you enough to sow an acre.

H. O. Kruschke.

Berlin, Wis.

P. S.—If you consider the last sentence too much of an advertisement to publish gratis, then omit it; I don't make anything by it. H. O. K.

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[For the American Bee Journal.]

A Bee-Keeper Persecuted.

Mr. Editor and Readers.—Having taken about 8,000 pounds of honey from fourteen colonies of bees kept in our corporation, and my neighbors erroneously supposing this was done without any labor worth speaking of (and perhaps by witchcraft), and seeing prospects for five or six thousand the coming season, these same citizens are taking measures to "boost this bee-dicker" out of town, prove the bees a nuisance, and annoy their owner as much as possible. As I expect a law-suit with the above-named gentlemen, any precedents or information on the case will be thankfully received. Have they any right to expel an apiary from a corporation, even if they should create a corporation law for the purpose? In other words, have corporation officers any right to make such a law? My apiary is quite remote from any dwelling, and the greatest complaints are from parties over twenty rods away. "The bees get into the tub and well, etc." We have a yard eight by eight rods, and our town has 2,000 inhabitants. In 1869 I kept forty-eight colonies, and got no honey. That was low comedy. Last year, as above stated, was high tragedy.

James Weddon.

Dowagiac, Mich., March 15th, 1873.

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[For American Bee Journal.]

Nucleus Hives.

Dear Journal:—I have been requested to give in the Journal the size and shape of my nucleus hives in which I am wintering reserve queens, referred to in article on "Wintering Bees," page 175, February number. I will first describe my frames. I make them four and a quarter by seven and three-quarter inches, inside measure, top bar one inch wide, a quarter of an inch thick, and nine and a half inches long, using the same size frame for nucleus hives and surplus honey. My hives are made nine inches from front to rear (inside), five and a half inches high, and of sufficient width to take in from four to eight (4 to 8) frames, allowing one and a half inches to a comb. The size I prefer is ten and a half inches wide, using seven frames. In such I have safely wintered queens the past winter, with very little trouble. There should be bees enough at the approach of cold weather to cluster in four spaces. To prepare such hives for wintering, the combs containing the latest brood, or empty combs in which the bees cluster, should be placed at one side of the hive, and the balance of the combs be well filled with honey, with a hole cut in the center of each comb for the passage of the bees. By having the cluster at one side of the hive, the bees work towards their stores; and when they reach the opposite side of the hive, which will be about mid-winter, three or four of the empty combs should be removed and their places filled with combs well stored with honey. If the combs are built of the proper thickness, they will contain about one pound of honey each. My nucleus swarms have wintered, to all appearance, as comfortably as my full colonies. No sign of dysentery or uneasiness has appeared, although remaining in my wintering house from the 5th of November to the 6th of February (three months), at which time they had a cleansing flight, and on the 8th of February were returned to winter quarters, where they still remain.

W. J. Davis.

Youngsville, Pa., March 12, 1873.

Bee-Culture vs. Bee-Keeping.

"Bee-*culture*" is to be widely distinguished from "Bee-*keeping*." The latter, if it imply merely the careless and neglectful possession of one or more hives of unfortunate bees, will invariably be found both uninteresting and unprofitable; for in this, as in all agricultural pursuits, want of care, and of that degree of skill which is sure to result from care, will lead to disappointment and failure. But on the other hand it is claimed that bees, with good management and timely attention—and they need but little of either, but what they do need they need imperatively and at the right season—can be made a source both of pleasure and profit.—*Rev. O. Lawson.*

[For the American Bee Journal.]

Sundry Items.

Mr. Editor.—The April number is at hand, filled with good things. Permit me to make a few running remarks on it. "Novice," with his usual ability, makes a very good plea in self-defence, mentioning all he has to sell, except his monthly.

Gallup's ideas on pure fertilization are very good, but one thing more is needed: after you have made your select colony of queen, workers and drones, cut out all drone comb in the rest of the apiary, and allow none to be made during the summer; then if you are not troubled with your neighbors' drones, pure fertilization is a certainty.

Thanks to D. L. Adair for his excellent article on Italian bees. This is a subject that is occupying the attention of a great many bee-keepers. Gen. Taylor, in one of his battles in Mexico, shouted "More grape, Capt. Bragg, more grape." So we say "More light, D. L. Adair, more light."

It appears that "Novice" and Mr. Furman have at last got their challenges accepted. Now, gentlemen, no dodging; fair play; pitch in, and we will see who comes out second best.

Your first article in the March number on "Alternate Generation and Parthenogenesis," is excellent and well worth the price of a year's subscription to the A. B, J.

A short time ago Mr. King sent me his bee journal. Now, as I never was a subscriber for it, I do not see why he sent it, unless it was to draw my attention to the loss of Mrs. Tupper's bees. I confess I do not see anything in this affair that justifies a call on the public for help. I learn from the journals that there has been a great loss of bees, in many parts of the country, this past winter, and if Mrs. Tupper lost her bees by fire, I lost all mine by frost. But that is no reason why we should call upon the public for help to make up our losses, which have been caused either through *ignorance*, *carelessness* or *wilfullness.* To me at least there is something unaccountable in the whole affair. Why did Mrs. Tupper bury her best stocks with the choicest queens? If I mistake not, she has denounced the practice of burying bees; but this is not the only time she has said one thing and done another, and the only consideration that has saved her in the past from severe criticism has been her sex. But the last straw has been laid on the camel's back. She has long enough been made the figure-head of the "King ring," without being exposed. And, moreover, we are told, with the utmost *sang froid,* that we are more deeply indebted to her than to any other! I would like to know for what? Has she ever given a single new idea to the bee-keeping public? All that ever I could see she has done has been this—she has entered into other people's labors (like a great many more,) and reaped the benefit,

I, with yourself, Mr. Editor, and many others, felt indignant at the presumptive untruth sent out through the country by Mr. King, and would, in closing these few lines, respectfully suggest that he cut off from his name the prefix "Rev.," as inappropriate for one who deals in trickery and deception.

Old Drone.

Geneva, Ill.

[For the American Bee Journal.]

Foul Brood.

BY M. QUINBY.

Little has been said lately on this question in the Journal. I would inquire if this is the effect of its disappearance generally through the country, or whether bee-keepers despair of finding a cure or remedy? If the first, I would like to ascertain why it has disappeared. I hardly think that its diminution can be attributed to what has been said for the last five years, although it may have contributed something towards it. Twenty years ago a chapter was published containing as clear a view of the subject as we have now. It was then traced from a diseased stock to a healthy one, like measles, whooping cough, small pox and some other diseases incident to the human family. The original cause was yet in the dark. But enough was known respecting it to suggest a remedy.

"A disease broke out among the silk worms of France which threatened their entire destruction. A man by the name of Pasteur, after making himself acquainted with the habits of the worm, applied the microscope, which revealed the fact that a species of fungus grew all through the body of the diseased worm, and the germ of this fungus was found in many of the eggs. Without wasting time inquiring into the cause, he suggested this remedy: Destroy all diseased worms and eggs, and develop the healthy eggs under circumstances that would prevent their coming in contact with the fungus germs. In two or three years healthy silk culture was restored to France." I trust that healthy bee culture will yet be restored to our country in the same way, although we can come no nearer the original cause. The most economical remedy is yet in dispute. Mr. Alley, of Wenham, Mass., (see A. B. J., 1870,) says: "Destroy hive, bees and all by fire," with which an editorial note entirely concurs, as the only effectual remedy. I do not dispute the effect of his remedy, but it seems too much like burning an old building to prevent any of the timbers being used to construct a new one, or giving a man medicine to kill him because we do not know how to prevent his dying of fever. I have always studied economy as far as possible, and would say, if there is a stick of timber yet sound in the building, use it in reconstruction; if there is one healthy organ in the human body, save it as long as possible. If any one part of the hive is healthy or sound, and there is enough of it to pay for the trouble of saving, by all means save it from the flames. If they have honey save that. If it be fed to the bees, purify by scalding. If for the table, detach the diseased part and bury out of sight as you would a diseased, incurable limb that had been detached to save the sound one. As long as there are bees for a swarm left, save them—unless out of season—to begin anew. The mature bee is healthy, as has been fully proved, and it has been many times demonstrated that they are as good as new timber used in reconstruction. We have restored our whole apiaries to health, not having a single case in the past two seasons. I would now ask Mr. Alley if he is entirely rid of it. If not, his remedy does not prevent it. If he is rid of it, did he gain by destroying his bees? Is he any more exempt from re-infection than we are? Suppose some neighbor brings a badly infected colony almost to his very door, what will save his bees from the contagion any more than ours under similar circumstances? It is not a little gratifying to be able to say the remedy has been tested and the position proved correct. I may add that the opinion expressed twenty years ago, viz: That if no diseased bees were brought within reach of the healthy ones, it would soon die out, seems verified. There is a fair prospect of its doing so. Our immediate neighbors are not troubled with it, and I know of none within several miles around.

Seasonable Hints to Bee-Keepers.

I again intrude upon your valuable space to urge bee-keepers at this season to carefully examine their hives, and ascertain that each has a prolific queen, as well as a good supply of stores to be used in rearing brood and strengthening the army of workers for the early flowers. Any hive found with less than ten pounds of honey should be fed regularly each evening, commencing with about two table-spoonfuls, and gradually increasing to a quarter of a pound daily. Any hive found queenless, if in an old-fashioned box-hive or bee-gum, should be driven out and united with another hive; if in a movable comb hive, it can be strengthened and built up by giving a frame of brood (if sealed all the better) from another hive that is strong enough to spare it, and in about fifteen days another frame of the same kind, and again, at the end of ten or fifteen days, another frame in which there are eggs or larvæ just hatched. It may be asked, why not give a brood to rear a queen from at once. If they have been queenless only a short time they will rear a queen from the first young brood given them, but if for a long time queenless, they will not rear a queen until after the first brood given hatches; the young bees from which will rear a queen as soon as they hatch in sufficient numbers to construct queen cells, manufacture the necessary jelly, and engender sufficient heat needed to rear queens, and can obtain eggs or larvæ of the right age to rear from. Should there be a queen reared from the first brood given, the hive will need careful watching, to be certain of the queen being fertilized and not becoming a drone layer. Should she prove such, as soon as drones begin to fly, kill her and give the hive a frame of young brood and eggs, from which they will rear another queen; and in about twenty days, if the weather is favorable, there will be but little doubt of the hive having a fertile queen. A queenless colony in a box-hive can be saved, but the labor is so great that it will not pay, and it is therefore more advantageous to unite with another colony. Bees should also be fed with rye-meal (ground fine and not bolted), if obtainable, otherwise rye-flour, mixed with sawdust or fine cut straw, will answer the purpose; place in a shallow pan and set near the hives, in a place sheltered from the wind and rain. The bees will carry the flour into the hives, and use in place of pollen to rear their brood with. Those who desire to change from box hives to movable comb hives, should obtain their hives and have everything ready for transferring as soon as first blossoms become plenty. Transferring can be done earlier in-doors, or if the weather is very warm and fine, out-doors; but the bees transferred will need feeding, as they will use much honey in repairing their combs and fastening to the frames. The earlier transferring is done, the earlier will the hive swarm, which to the bee-keeper of careful habits, will more than repay the care and cost of feeding. The careless bee-keeper I would advise to let movable comb hives alone—they would not be as "lucky" to him as the "old gum," and in the end he will become convinced that "patent hives kill the bees," as many have been convinced that the mowing machine kills the grass in the meadow where it is used.—*"B." in the American Farmer.*

[For the American Bee Journal.]

Uncovered Brood.

Mr. Editor:—Page 170, February number, "Novice" thinks me certainly in error, that in revolving brood, sealed or unsealed would injure it. I hope and wish it to be no more than an error on my part of thinking so, as I stated in December, page 136, and am of the same opinion still. The proof that "Novice" supplies on page 170, March number, is convincing. See, here are large patches uncovered, and I once feared it was foul brood, or something wrong, but always came out right. I never, as far as I have noticed, saw brood so exposed to, say the full-grown bee looking white, patches of it, and had them to come all right. The workers, removed them, and not one of them could find in one instance, that colored dark showing maturity. Mrs. Tupper is in error on the same subject. But what say our enlightened bee-keeping public to this point? Shall we have the pleasure to hear some of their experience in this matter? Or is "Novice" the only one who can prove what is believed by Mrs. Tupper and myself, on this subject, to be erroneous? It would appear that "Novice" thinks it to be from an excess of heat. Well, I have the opposite opinion. In the summer of 1871, which was remarkable for its low temperature, I had occasion, one day, (thermometer at 55°, bees flying somewhat) to sling honey from all the combs but two central ones, they being filled chiefly with brood, and every comb being operated on. They contained sealed brood, and showed patches of different sizes of brood, apparently of every stage of maturity, uncovered. Finding it thus three days, afterward, this one being the worst, in such a state, in consequence of the cold that day, in my opinion.

C. Wurster.

Kleinburg, March 24th.

Cheap Hives.

[The following communication was addressed by Mr. Quinby to "Novice," and has been forwarded to us in accordance with the writer's instructions, as given in this accompanying note: "Mr. A. J. Root:–Enclosed is an article on "Cheap Hives," that I would like to see in "Gleanings." If too long, please send it to Mr. Clarke, or return it to me." As "Novice" has sent it to this office, instead of returning it to the author, we presume he wishes to have it published, so that both he and Mr. Q. will be glad to see it in these columns:]

Mr. Editor.—What constitutes a cheap hive? Twenty years ago I made hives, and used them, that cost only thirty-seven and a half cents—the hive alone—succeeded with it, recommended it to others, because I thought it the cheapest that could be made. Mr. Langstroth promulgated the movable-comb principle. The hive could not be made short of several times the cost of the one I used. Before any one adopted it, he must be persuaded that it was cheaper, must know enough about bees and their management to know what was wanted in a bee-hive—that he could make enough more with the movable combs to pay the additional expense, and a surplus besides. Can you not show that your hive costing a dollar is cheaper than the one costing thirty-seven and a half cents? Are there any further improvements possible?

Mr. Hazen patented a hive that would hold boxes to contain 200 pounds surplus. Can this be improved? I wanted the hive that that would make the most honey as well as profit. If the cost of making exceeded the value of extra honey, better not make it. But if the reverse was the case, it seems to me that the hive costing more was the cheapest, as more was left from the same bees, after deducting expenses. You recommend a hive that can be made for a dollar. Suppose Mr. Hazen recommends one that costs, with right to use, $10, and gets 200 pounds in boxes, worth twenty-five cents per pound, amounting to $50. You get 200 pounds extracted honey, worth fifteen cents, amounting to $30. Here is $20 difference. We reckon nothing for cost of extractor and labor of using it. The cheapest hive ought to be easily seen. The prices of last season would make the difference $40. Until we can raise the credit of pure extracted honey, that in boxes will pay the best. Now I want a hive that is adapted to either. Have made such a hive. Cannot make it for a dollar; yet all it costs more is more than made up by the conveniences, which make it cheaper in the end. In taking out a frame of comb, it usually is not best to lift it out from between two others, causing the irregularities to pinch, perhaps mash a few bees, and make them cross, when they will need some smoke to quiet them. This takes time—"time is money"—I wish to avoid this. If plenty of room is furnished in combs or boxes, they do not join the frames together by constructing cells between them, nor do they make cells where there is room for only one or two of half the usual depth, which, filled with honey, must be cut out, or the cells broken or mashed, exposing the honey. It took some experience with large hives to demonstrate this. Now to prevent inequalities of combs in suspended frames from pinching bees, take off the side of the hive, and take the first comb out a little sideways first; no bee is pinched. Yet when we want a comb from the middle, we must take the outside ones first till we come to it. The combs, when taken out must be put somewhere, leaned up against something, or put in an empty hive. We gain something by taking the side off before lifting them out. We make it still more convenient by taking off the end as well as side, and have the frames stand alone on the bottom board. Each one or more can be moved six inches, and stand firmly without pinching or irritating. The middle one can be moved an inch or two sideways, unhooked and lifted out; no bees disturbed. It is known that after a comb is taken out, and raised up to look at, that the greatest danger of stings is over. The light seems to confuse the bees, and they are not able to comprehend the true state of things. The black bees, as soon as the first impulse is over, run away and try to hide. The Italians remain spread over the comb without much fear. We separate the combs without a jar, with some sharp-pointed instrument, till the light affects them, before lifting a comb. Can a hive be made to effect this, without taking off the end as well as side? We work faster in this way. It takes time to subdue cross bees. We can do more work every day, and in a few days enough more to pay for fixing a hive convenient to work with, that costs more, and ever after pays a profit. Which is the cheapest hive? Again, the corners of the hive, or any box, can be held together as firmly as by nails, and held both ways equally, can be loosed as readily as raising a latch; boards forming hive are not split or spoiled in separating, as when nailed; can be used for other purposes if necessary. The hoops are metal, and will last a little over a life-time, yet the cost of such fastening is little more than nails, but may be reckoned cheapest in the end.

Then again, when bees are to be wintered in-doors, and the frames made to stand on the bottom board, as we have them, the sides and top can be taken off and piled up somewhere. The frames now constituting the hive take much less room, not more than the old box hive. I have wintered two hundred colonies in that hive, in a room ten by eighteen feet and seven deep. We can put as many in these frames in the same space. We can all comprehend that a space, large or small, well packed with bees, is warmer than one half full. The two past winters have taught us lessons in keeping bees warm that we would do well to heed.

After all, those with too little experience to know what is wanted in a bee hive, will not be profited by seeing which is cheapest.

M. QUINBY.

St. Johnsville, N. Y.

Reports, Experiences, and Opinions.

Rev. L. L. Langstroth, of Oxford, O., writes:

"Bees in this vicinity have wintered badly,—many have lost all their stocks. Owing to sickness in my family, mine were not housed until January 27th. On the morning of that day, seeing from the United States weather report, that the temperature at 10:30 P. M., the previous night, was 19° below zero at Breckenridge, Minnesota, I determined to house them. On examination, five colonies were found dead. The others, fifty-eight in all, were carried into a warm kitchen, and from that into a dry cellar. They were set out on the 6th of March, all alive and in good health, one only being queenless.

"They were fed in September on sugar syrup, none of which candied. The proportions were about 45 pounds of Coffee A. sugar to two and a half gallons of water—the mixture being brought just to the boiling point."

A. Hoagland, of Sharon, Mercer County, Pennsylvania, writes, March 19th, 1873:

"I see a brief report, in the March number, by Mr. D. M. Miller, of this county, stating that the bee business had gone up Salt River. It may be so with him, but I think if Mr. Miller would look about him he would find himself mistaken. We do not feel discouraged; I have seen darker days than the present. I have lost but five swarms in the last two years. My bees pay, even in the poorest seasons. Wake up, bee-keepers! Don't be discouraged; 'there's a good time coming.'"

E. Cobb, of Cornersville, Tenn., writes:

"Experience has taught me that young swarms should be well shaded, so as to keep the hive cool; and if it be a time honey cannot be gathered by the bees, they should be given some honey until they can gather it for themselves. The above is my treatment of young swarms, and I have lost but one swarm in ten years."

Joseph M. Brooks, of Columbus, Indiana, writes March 24th, 1873:

"I would like to ask two questions, to be answered by some of your correspondents:

First.—I would like to know some sure method of keeping the moth from dry, clean comb. I have about thirty pounds of nice comb, that has been exposed all winter to the cold, and is surely free from all moth now. As I cannot use it until I divide my bees this spring, I would like to know how to keep it until needed.

Next.—I wish to know the best plan to follow in making artificial swarms. Last year the season was a very poor one here. There have been a great many bees starved to death this winter. Mine came through all right, but I had to feed last fall. I wintered mine in my cellar; have them set out and they carrying in rye flour."

L. James, of Atlanta, Illinois, writes February 22d, 1873:

"Such fatality among our bees has never been witnessed in this section of Illinois, as the record will show next May. At the present writing, the per cent. of loss is all the way from one-half to all the colonies. Last winter we lost from twenty to twenty-five per cent., and thought this hard. The summer proved a bad one for our favorites, as the clovers, from some cause or other, failed to yield their usual stores, and as the blooms of these plants are our main dependence, little surplus honey was obtained by any one I know of. Now, in view of the vexatious attention and labor necessary in the preservation of our comb from the ravages of the bee moth, or wax worm, allow me to ask, through the medium of the JOURNAL, for advice as to the most practicable method of keeping it. Such persons as Messrs. Langstroth, Quinby, Grimm, Gallup, Marvin, etc., whose experience extends over a long series of years, can perhaps afford us the much desired information. Our request is not confined to the above-named persons, but answers will be kindly received from any one whose experience has furnished him with facts on this subject. The past two seasons have been so unfavorable for bees in this locality, that most persons are becoming discouraged and indifferent about them; and the winter which is now passing will show up such a record next spring as to require strong faith in the most faithful to persevere in a business, fraught with so much uncertainty. Yet I think a determination to master the situation will lead to success."

F. McCulley, of Friendship, Tennessee, under the head of "Information Wanted," writes:

"1st. What causes bees to die out, having a good supply of honey in both the brood chamber and honey cap? 2d. Why will bees leave their homes, with abundance of family groceries on hand, and emigrate to parts unknown? 3d. What is the cause of so many deformed bees in a hive? My best Langstroth hive, I have noticed the bees dragging out deformed bees, when that hive to-day contains nearly 100 pounds of honey. 4th. Cannot we use comb left by bees dying out, to some advantage, by cutting to fit our frames, or would the bees reject such?

"I regret to see the rising of discord between some of the best of our bee brothers. Oh, that we could communicate to each other in a harmonious style. It would be more in accordance with the wishes of all bee-keepers. We ought to nip the spirit of discord while in the bud, and not let it diffuse its obnoxious odor in our apiarian element.

"Now, MR. EDITOR, I see you complaining of dues to the A. B. J. All that I have to say is, that there are two debts that I will be prompt to come to *taw* with, and those are my JOURNAL subscription and my poll tax. I would not keep bees without the JOURNAL, for it contains much valuable information on apiculture.

"It is an obvious fact that this pursuit is rapidly spreading through our country, and may it ever continue to advance. MR. EDITOR, we would be pleased to see the quotations of honey in different markets, in the pages of the JOURNAL, and when you make that addition, we will then pronounce the JOURNAL complete."

Eli Shulze, of Brownsville, Iowa, writes:

"Early stimulative feeding seems to be in general favor among bee-keepers; but the question arises, should it be practised in all locations? Let us see. I commence early in the spring to stimulate by feeding buckwheat flour, oat meal, and syrup. The fruit blossoms come out, and my bees make fine headway, so that by the last of May or first of June my hives are filled to overflowing with bees. Swarming commences, and by the middle of June I have quite a good increase. But here (June 1st) the yield of honey suddenly stops. Fruit blossoms are all gone, and the whole country, so far as honey is concerned, is as barren as a burnt district, except a few heads of white clover, and perhaps no honey in them. My early swarms have nothing to do but enjoy their new domicile and speculate on the probabilities of a yield of honey. With what anxiety have I watched the basswood and sumach, while my bees were stirring, especially the swarms. The basswood finally blows, about the 8th or 10th of July. By this time my old stocks are well emptied of honey, brood and bees, and my swarms reduced to a handfull. With the exception of the summer of 1871, my early swarms have been my poorest, and early feeding looks too much like a failure. The true theory seems to be, *have the greatest working force when honey is most abundant.* My conclusion is that my management has been the very worst. I have always stimulated to get early swarms, and have generally depended on natural swarming. The result has been the same in every case (except in 1871), so there is something wrong somewhere. I think I will swarm my bees artificially this season. Will Mrs. Tupper explain her method of artificially swarming? Will Mr. Moon tell us when he takes a comb or two from each stock, with which to make his swarms? Does he fill up with empty comb, or simply put in empty frames? If so, will the bees (having the swarming fever) be likely to build drone comb? To conclude in regard to feeding, if I fed I would feed for a purpose. If my main dependence was on fruit blossoms, I would unite my stocks in the spring; if on white clover, I would stimulate early; if on the basswood, I would wait until the last of May or first of June."

F. E. Sibley, of Victoria, Texas, writes; "I have read this journal for several years, and consider it has greatly improved under your management. I think very favorably of the "Benedict plan of pure fertilization," endorsed by Mr. E. Gallup. I intend to adopt it myself.

I have seven (7) colonies of Italian, and thirteen (13) common black bees, which I am going to Italianize this season. My first swarm issued on the 18th March, very unexpectedly, after which I adopted the artificial mode.

I find the Italians proof against the moth and webb worm, which have been very prevalent in this section, and which (until my success) has caused people to abandon apiarian pursuits. The old box hive and gum were all the rage until I introduced the Langstroth Patent, which has instilled new life into the enterprise. We Texas people hardly know what wintering bees means. Such a thing is unnecessary here, as there are but few days in the year so cold that the little pets do not venture out. I do not keep bees for profit pecuniarily, but for the great pleasure and recreation it affords.

[For the American Bee Journal.]

Importation of Italian Bees.

REPLY TO D. L. ADAIR.

I am glad that the delay caused to my departure for Italy allows me to read the above mentioned article, in the A. B. J. for April, and to write an answer.

In that article General Adair makes himself a reporter of the gossips that took breath during the last N. A. Bee-keepers Convention, concerning my last voyage to Italy, by insinuating that Mr. H. A. King was perhaps interested in the *venture.*

Mrs. E. S. Tupper had come to my place in the winter of last year. During the conversation, we talked about the importations of Italian bees, which were far from being cheap. The last importation had cost me $62, and gave me but one living queen. We deplored thsee difficulties, for we had both derived a great profit from the introduction of imported bees in our apiaries, the new blood giving more vigor to the bees. We both desired to get about 100 queens, so as to avoid the inconveniences of in-and-in breeding, to which the bee-keeper is subject when he has but few queens to breed from.

A few days after this, the idea of going to Italy myself suggested itself to me. I wrote Mrs. Tupper, proposing to her to associate with me. This association was formed, and as the Italian Bee Company was better situated for the sale of bees than I was myself, my business being mainly honey-raising, I consented to allow them to sell all the queens, provided they should pay all the expenses of advertising. But we were to divide the profits and losses.

At my arrival in New York the queens were unpacked in the office of the *Bee-Keepers' Journal.* The quantity of living queens being far from sufficient to fill all the orders, we resolved (following Mr. King's good advice) to send one queen to each one of those that had ordered six or less. A firm that had ordered thirty received six, and our own orders (Italian Bee Company and myself) were reduced in the same proportion. Some orders were entirely suppressed, on account of the distance, or the cold, that would have endangered the lives of the queens. This determination was the most equitable way of solving the matter.

Then Mr. King bought from us (from our own shares) ten queens, and paid for them twenty dollars ($20) apiece.

This is the only connection that Mr. King had with us in this affair. If Gen. Adair doubts of this, I am ready to communicate to him the contract that was signed by Mrs. Tupper and Savery and myself.

If Mr. King offered a resolution of thanks to our association, for our efforts in importing queens on a large scale, without having given me any notice of it, it is probably because he thought that we had tried to render a service to the bee-keeping community, as I believe myself. Why should Gen. Adair seek for another motive? and what need is there to occupy anew the public with this insignificant motion?

Let me now come to a more serious subject. Gen. Adair recognizes that the importation of Italian bees has been beneficial to the people of the United States. But in the enumeration of these benefits, he omits the now uncontested fact, that these bees have qualities not found in other varieties. He even contests their existence as a race, because I spoke of bees more or less dark-colored.

By this difference in color, I mean that, in some parts of Italy, the bees have their yellow rings bordered with broad black bands; and those are what I call darker bees. In other parts, the black bands are narrow; these are what I call lighter-colored bees.

But in all the parts of the peninsula that I have glanced over, I have not found a bee that I could call hybrid; that is, having but two yellow rings; or falling off the comb, as do the black or the hybrids; and, to me, there is not a better test of purity. And when I say yellow, I do not mean orange-colored, but leather-colored.

My letters from Italy have been written under my first impressions, and drawn from what I saw at first sight, and from reports more or less true or interested, that came to me from all sides. Afterwards, when I drew a conclusion, I was forced to admit that I had not seen any hybrid bees in Italy, and that hybrids do not exist on the other side of the Alps, either; so that there can be no crosses unless bees should be imported from one country into another.

Mr. King reports that he found in Hruschka's apiary, two stocks in two hundred that could be called impure. Hsruchka answered that they might be impure, as he had received them from other parties. I had read this before starting. When in Milan, I enquired of some members of the Society of Apiculture about it it. They said: "Our friend Hruschka is always experimenting; you know that he tried to tame hornets, and that he exhibited a nest of them at the exposition of Nuremberg. He imported two or three black stocks in his apiary, for experimenting, and it will take several years before this little black blood be absorbed by the Italian races. Mr. King, who does not speak Italian, has probably misunderstood the explanation given him by Hruschka."

If Gen. Adair had deferred his article, he would have seen that, in the same number, I answered almost all his questions, as to the difference that I had noticed between the bees of the plains and those of the mountains. In his "Annals of Bee-Culture," for 1869, Gen. Adair speaks of five or six different varieties of bees existing in the United States, besides the Italian and Egyptian races. He says: "In other parts of the country I have seen variations as distinct; within twenty miles from where I write there are three distinct varieties, easily distinguishable by sight." * * * What does that prove, if not that the importations of bees were brought from different parts of Europe?

In France, only, I know of two or three different varieties of the common bee; some gray, (the common bees are called *abeilles grises* in France), others black, others with yellow hairs on the thorax. But all these varieties do not form different races, but *sub-groups* of the common black bee. In a field of white clover you will find some blossoms almost entirely pink. Does that difference prove that it is not white clover? Besides, if within twenty miles, in Kentucky, there are three distinct varieties of common bees, is it astonishing that at a distance of fifty miles, bees that are separated by lakes, rocks and mountains show slight differences, the slow crossing that takes place, being annihilated by the influence of the climate, that has first produced these differences. Then if the climate has had the power to modify the color, character and activity of the bees, is it not probable that the best bees will be found in the place where these modifications will be more marked?

This is why I am ready to return to Milan, to bring in my apiary bees from Lombardy; for these bees are superior in beauty to those of Tessin, Tyrol, and Piedmont.

As to the importation of more bees to the United States, according to Mr. Adair, it is useless, *if not injurious.* But he would be greatly embarrassed if I asked him why?

When Mrs. Tupper came to my place, she said she desired to buy from me fifteen or twenty stocks of bees. Then, after having seen my bees, she asked me to sell her fifty or seventy-five stocks. She had probably been struck by the regular beauty of my bees. This regularity was caused by the great number of my importations. I believe that no American bee-keeper has ever spent as much money as I have in importations. It is true that each of my imported queens probably cost me over $20. But no matter; I do not regret this outlay, as I have thus obtained more regularity in the color of my bees.

If we had contented ourselves with the few queens of Mr. Parson's importation, as Gen. Adair suggests, we would certainly be now disgusted with Italian bees, and would call them a failure; for no race of animals is more averse to in-and-in breeding than the honey bee. Amongst horses, the strongest is always the head of the herd; this shows that consanguinity has no bad effects on horses; otherwise nature would have provided for it. In bees it is not so. The queen, having to go out of the hive to meet the drone, it seems that nature demands the crossing; and it is so; for every observing bee-keeper has noticed the inconvenience of consanguinity.

Ch. Dadant.

Hamilton, Ill., April 6th, 1873.

Pastor Kleine suggests as a subject worthy of the attention of bee-keepers, an inquiry into the nature and source of the chyme or food material by which the young brood of the bees are nourished. Is it a natural product from the body of the bee, or is it a mere mechanical product of digestion?

THE AMERICAN BEE JOURNAL.

Chicago, May, 1873.

Removal.—The office of this journal is removed from 146 Madison street to 25 West Lake street, Chicago.

Attack on the North American Bee-Keeper's Society.

Mr. King in the April number of his two bee journals, bestows a severe and undeserved cudgelling on the above-named Society. We cannot quote his article in full, but the main points in it may be summed up briefly, as follows:

1. "All *first* efforts are more or less futile, and the history of the N. A. B. K. Society furnishes no exception to the rule. Although it has been in operation three years, its organization is still incomplete and inefficient."

2. Attendants "assemble without any definite objects or aims;" "questions are proposed for discussion which no one but the proposers have ever investigated, perhaps;" and the discussions are unfit to "go out to the world as the profound opinions of America's best apiarians."

3. "Compare our records with those of the German societies, and how we suffer by the contrast."

4. "Let the committee of arrangements appointed at the last session go to work at once, and assign definite subjects to competent persons."

The foregoing are merely the "heads of discourse," and are enlarged upon more or less fully. We have a few criticisms to make on this piece of gratuitous fault-finding, and propose to take up the several points in their order.

1. Whatever may be true as to the alleged futility of "all *first* efforts," even granting that to be as claimed "the rule," we boldly deny Mr. King's assertion concerning the N. A. B. K. S., and affirm that it does furnish an exception. Considering its brief term of existence, it has been, to a gratifying extent, a success. Mr. King says, "it has been in operation *three years*." We are astonished at this statement, coming as it does from the Secretary of the Society, who has the records at hand, and being supposed to speak "from the book," ought to be accurate, not to say, truthful. The Society was organized at Cleveland, in December, 1871, and therefore is not yet half the age represented. Even if its birth be dated from the organization of the two Associations, whose consolidation, happily effected at Cleveland, formed the N. A. B. K. Society, it will not be "three years" old, until the latter part of December, for one of these bodies met in Indianapolis at that period of 1870, and the other met in Cincinnati, in February, 1871. But, as a matter of fact, the Society had been in operation *less than sixteen months* when Mr. King's article appeared in print, affirming that though three years old it was a futile affair. So much for the accuracy or truthfulness of the complainant.

Now, what has the Society accomplished? Well, it has united the Bee-Keepers of North America in one fraternity for the promotion of apiculture. Commencing "away down East" at Maine, it has drawn a cordon of unity around the "stern and rock-bound coast of New England," the "Sunny South," the "Pacific Slope," the home of the "Latter Day Saints," the "Great North-west," and the "Dominion of Canada." This is no mean achievement, especially in view of the threatening rivalries apparent at the Indianapolis and Cincinnati meetings, which were hushed to sleep,—the sleep of death, to all appearance, at Cleveland.

We fail to see wherein the "organization is still incomplete," or its practical working "inefficient." While making these charges, Mr. King neither furnishes illustration nor proof of them. Wherein is the Society "incomplete?" Are its Constitution and By-laws defective? Does it require more officers? Wherein is it "inefficient?" Is not the machinery well enough fitted to do its work, if properly operated? We have been at all the meetings, and can testify that they were interesting, pleasant, and profitable. Such we believe to have been the general opinion. Probably the Society has not accomplished what Mr. King had in view, and to secure which, he prevailed on certain parties to attend, by promising to pay their expenses; but individual disappointment is no evidence of organized inefficiency. The Society may have failed to achieve narrow ends, just because it has achieved broader ones. It may have overlooked "number one," in its anxiety to do "the greatest good to the greatest number."

2. It is a downright libel on the large and intelligent bodies of bee-keepers that have met in the name of the N. A. B. K. S., to say they "assembled without any definite objects or aims." They met to form or foster acquaintance with distinguished apiarians whom they had long known through their writings, and with one another generally. They met to promote a common interest, and to glean information about a favorite pursuit. They met to compare notes and experiences. They met to inspect hives, extractors, bee-feeders, non-swarming attachments, artificial comb, and whatever else might be on exhibition.

They met to expose humbugs, and consider ways and means of banishing old-fogy bee-keeping, and establishing enlightened and scientific bee-keeping everywhere. If these are not "definite objects or aims," we are at a loss to know what deserve to be so called.

As for the questions propounded for discussion, they have been for the most part very practical ones, and we do not recollect any instance, in which parties have asked them to display their own wisdom, as insinuated. The discussions themselves are by no means discreditable. We have met with no disparaging criticisms on them, except those of Mr. King, and any one who will examine the minutes with a view of ascertaining how much wisdom he contributed to the common stock, will set this down as a notable instance of "the pot calling the kettle black."

3. It is no disgrace to us that we have to own the superior eminence of our German brethren, as apicultural investigators. "Honor to whom honor." To grudge the acknowledgment of well-earned superiority, is very small-minded.

4. The Secretary of the N. A. B. K. S. ought to know his own duties, and the duties of committees, better than to give the advice contained in his closing paragraph. The Local Committee of Arrangements has other business than to assign subjects for discussion, and the like. Its duty is to provide a place of meeting, make terms with hotels and railroads, see that proper local publicity is given to the meeting, and things of that sort. Mr. King maps out the work of the Executive Committee, of which as Secretary he is the most responsible member, and shifts it on to the shoulders of the Local Committee. This will not do.

Go to work yourself, Mr. King, if you want the next meeting to be a grand success. Digest a plan, forward it to the Corresponding Secretary, and let him write to the other members of the Executive Committee about it. Choose a topic you feel "able to discuss *learnedly*," and get up a paper that will convince even German apiarians that their American brethren have "profound opinions." Who so proper a person as he whom they delighted to honor, and he who has taken upon himself the office of Critic-General and Supreme Judge of American apiarians? We stand ready to do our "level best," and "little all," notwithstanding the ungracious fling about "forestalling discussion" in the closing paragraph of Mr. King's article. So do many more. Timely official action is all that is needed. Half as much written from the Secretary's desk as has emanated *ex cathedra* from the editorial chair, would have accomplished far more for the welfare of the Society. But we fear this is not the object really aimed at. Unable to use the Society for his own ends, Mr. King is intent on doing it damage; though from his official position, it is a species of treason. The Secretary of a society is its most responsible officer. On him, more than upon any other, its efficiency and success depend. Be loyal and faithful to the trust committed to your hands, Mr. King, and "our word for it," *all will be well.*

Shall I go into Bee-Keeping?

BY THE EDITOR.

We are vain enough to think that our former article on bee-keeping may have inclined not a few readers of it to entertain the idea of keeping bees. But there is one great and terrible hindrance which meets beginners at the very outset, and often effectually deters them from the contemplated undertaking —it is the *fear of being stung.* Many own this, and others who are too proud to own it are nevertheless influenced by it.

Now, it is no mark of wisdom to make light of a bee-sting. It is no joke. A mosquito-bite, or if you can imagine it, fifty mosquito-bites in one, are as nothing to it. The bee not only inflicts a wound, but injects a poison. This poison is very subtle and virulent in its nature. It has a peculiarly potent effect on some people. A bee-sting has been known to cause death, when inflicted in a highly sensitive part of the body of a delicately organized person.

Thus much admitted, let a few considerations *per contra* be urged. In the *first* place, there is far less danger of being stung than most people imagine. The idea that every bee you hear buzzing around you is intent on plunging its dagger into your quivering flesh, is preposterous. The ordinary buzz of a bee is its song of labor, an audible proof that it is intent on work, not on mischief. A bee rarely stings except as the result of injury or provocation of some sort. If interfered with in any way, and particularly if irritated, squeezed or crushed, it is pretty sure to sting. Like a Scotchman, the bee has for its insignia a thistle, and for its motto, "*Nemo me impune lacessit.*"

Secondly, there are simple precautions to be observed in all operations amongst bees, by which all danger of being stung may be obviated. Ordinarily a quiet self-possessed behavior amongs bees ensures safety. All sudden movements are to be avoided. Bees are excessively nervous insects. They get excited in a moment. Gentleness must be practised *always.* If they raise a warning note of anger, or dart towards you threateningly—the usual indications of a disposition to sting—the best course is to stand perfectly still, bending the head forward to protect the eyes, as strange to say, bee practice is the same as pugilistic, to *hit in the eye.* With the head bent forward, there is really very little of the face or body exposed to a straightforward attack, and such only bees make. It should be a fixed purpose *never to strike at a bee.* Only an experienced and cool bee-keeper can ever do that safely, and even such at times make a miss and get the worst of it.

A perfectly self-possessed and skilled apiarian can sometimes get rid of immediate annoyance by the sacrifice of a bee's life, but even this is not a practice to be commended. A bee struck at becomes infuriated, maddened—and returns to the onslaught, determined to "do and die." But we recommend all beginners to arm themselves with a veil and a pair of sheepskin gloves, when they have occasion to meddle with bees. The veil must be a close one, for these are prying little insects, and when they alight on a veil will crawl and crawl, hither and thither, and if there be an opening, are pretty sure to find it. A bee, however peaceably inclined, will sting when it finds itself in a "tight place." Those who keep apiarian supplies for sale have suitable veils, and as for gloves, there is nothing better than those used in harvest-time in handling grain infested with thistles.

Thirdly, modern apiarian science has discovered a short and easy method of taming or subduing bees. A few puffs of smoke from a bunch of burning rags, a pan of chips, or a bit of rotten wood, will usually quiet a colony of bees so that it can be handled with impunity. The explanation of this is that the smoke excites a slight panic in the hives, so that the bees at once fill themselves with honey, and when gorged with honey they are disinclined to sting.

Fourthly, most people, after being stung a few times, come to think very little of of a bee-sting, the pain and irritation being much less than at first.

These considerations ought to suffice as an antidote against the fear of being stung. If they do, and the determination is formed to go into bee-keeping, this advice should be followed:

1. Do not rush in hot haste into this pursuit. Read up in regard to it. Master the first principles of the art before you get a hive of bees. Be content to begin in a small way, and take time to gain experience. One stock of bees is ordinarily enough to begin with.

2. Obtain, if possible, a colony of bees in a *movable frame* hive. Bees have been kept profitably, and may be still, in straw or common box hives, but to attain the best results, a movable frame hive is necessary; with this there is access to the bees, and perfect control over them. With this, more may be learnt about bees in a single season's observation than by keeping them a dozen years in straw or box hives. Such a hive can easily be obtained from some of our leading apiarians. A stock of common bees in such a hive will cost about ten dollars, inclusive of patent right.

3. Do not expect sudden and wonderful profits, nor be discouraged by reverses at first. There is no speculation in bee-keeping. Nevertheless, after some years' experience, we firmly believe there are few directions in which a little time and money can be more judiciously expended. To be successful, however, will require diligence, care, energy, and perseverance.—*From the Canada Farmer, Feb. 15th, 1873.*

Exploring Bee-dom.

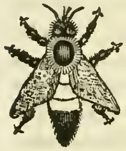
BY THE EDITOR.

If the beginner in apiculture has taken our advice, and begun to read up in relation to the nature and habits of the bee, the result will be a great curiosity to verify some of the wonders of the hive by actual inspection. It may be safely affirmed that if no such desire be felt, there is no call to bee-keeping. You may be cut out for a gardener, an angler, a poultry fancier or a sheep-raiser, but you are not cut out for a bee-keeper unless reading on the subject fires you with a strong desire to see the inside of a hive.

With a movable frame hive this curiosity can easily be gratified, and a vast amount learned about these remarkable insects in a very short space of time. We will suppose that the reader, having determined to begin as a bee-keeper, has purchased a colony in such a hive. It is bought in the early spring, when the risks of wintering are over, and brought from a sufficient distance (at least three miles off) to prevent the bees, from their memory of localities, going back to the old apiary. There stands the newly acquired treasure, in a spot chosen for the season, beneath some not over thickly foliaged shade or fruit tree, where it can have at least partial protection from the fervour of the noonday summer sun. You have watched, at first at a respectable distance, and then somewhat nearer, the goings out and comings in of the busy little workers, during those early spring days which were warmer than usual. The only peculiarity about them that you have noticed has been that quite a number of them, on returning to the hive, have their thighs laden with a yellowish or reddish looking substance, concerning which you have said to yourself, with a sense of inward pleasure, "That's honey." Well, it isn't honey, but it is something just as essential to the well-being of the colony, as we shall see presently. Your out-door observations increase the curiosity which has been awakened by your in-door readings. Now for its gratification. But be sure to follow the directions about to be given, whether you can see the wisdom of them or not.

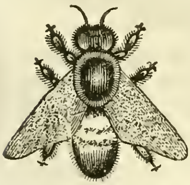
Choose an hour toward midday, when the weather is warm and pleasant, and the bees appear to be in rollicking good humor, making the air resound with their musical humming. Put on the close fitting veil and sheepskin gauntlets described in a former article. Get smoke of some kind, and gently blow a few puffs in at the entrance of the hive. Hark, and in a few seconds you will hear a peculiar buzzing, which you will by and by learn to recognize quite readily. It signals you that the smoke has taken effect. That's enough. Don't over-do it. Bees can be annoyed and angered by an overdose of smoke.

Wait a few minutes. The smoke has created a slight panic in the hive, and the bees instinctively fly to their chief treasure, the honey, and load themselves with it. In that state, they are indisposed to sting. A bee filled with honey is like an Englishman after dinner—very good-natured. You may now proceed to open the hive, doing everything very gently and quietly, for bees are as nervous as people who drink strong green tea thrice a day. The least sudden movement gives them a start and puts them on the alert. Having taken off the outer covering of the hive you come to the honey board. This is fixed fast with propolis or bee glue. Bees are not loose in their habits. They want everything strong and solid, and so they gather and prepare a resinous material, which they spread on in a sort of viscid state, but which gets hard like sealing wax, except in the very hottest weather. But it is as brittle as sealing wax, and the point of a knife will usually loosen the honey board in a moment. Now lift off the honey-board carefully, and set it by the side of the hive, near the entrance, in order that the adhering bees may, if they wish, readily re-enter the hive. At this stage you will feel rather nervous most likely, especially if the bees should rush out at all, as they sometimes do. But keep quiet, take your time, blow a little smoke across the top of the hive, and down between the frames. This will still them. The frames are glued fast, as was the honey board, and must be loosened in the same way. Be very careful in drawing out the first frame. Make an opening for it by gently pushing the frames on either side. Fix it as a rule not to crush a single bee if it can be avoided. Having thus drawn out a frame from about the centre of the hive, begin to examine it. Of course the bees first attract your attention. Most of them, perhaps all that you see, if it be early in the spring, will be like the one shown in this cut.

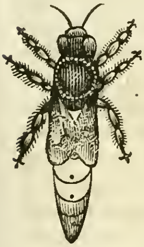


These are the *workers*. They are undeveloped females. On them all the labors of the hive devolve.

Later in the season you will notice, on opening a hive, a proportion of larger bees. They are portly looking, aldermanic insects, each with a jolly corporation of his own. There is no difficulty in identifying them. The accompanying engraving shows how they look. They are "the lazy fathers of the industrious hive." They perform no toils, and lead a life of pleasurable idleness.



If you look sharply you will perhaps be fortunate enough to find the queen. But she is modest and retiring, prone to hide in little knots of workers, and seems to take pains to elude observation; sometimes, however, she walks forth, with a slow and stately step, and with a sort of majestic air, which proclaims her "every inch a queen." Novices are very apt to mistake some drone more slender than his fellows, for the queen. This cut will aid in her recognition.



Her wings are short, her body long and tapering, and her movements peculiar.

As you proceed with your inspection, you will observe many cells containing a yellowish or reddish substance. This is *pollen*, the food of the young bees. You took it for honey as the workers were carrying it in, but it is not much like honey here in the cells.

It will strike you that the honeycomb is not all of the same size, and on careful observation, you will see that there are two sizes of cells; the larger size is known as drone-comb, and the smaller as worker-comb. The drones are raised in the one, and the workers in the other.

Peering into these cells you will notice little white things coiled up in them. These are the grubs or larvæ. If you search narrowly you will see at the bottom of many of the cells, little white specks about the shape of rice grains. These are the unhatched eggs. They are all laid by the queen, who is the mother of the entire progeny. It is very interesting to note the egg, the newly hatched grub, and all the various sized grubs, up to those that look so big and fat that the cells can hardly hold them. You will notice also many cells closed up, "sealed over," as bee-keepers say. These contain the young brood in the last stage of development, and if you watch closely you will see some of them who are mature eating their way out of prison, into that world in which they are to play such an active part.

This is a sufficiently long exploratory tour for the first, in the hitherto (to you) unknown realm of bee-dom. It has, to some extent, satisfied your curiosity. It has proved that you can handle bees without being injured. It has given you an insight into bee-life. It has opened to you a world of wonders, into which you will take many a journey, and, if you are a devout student of nature, you will exclaim often, as you behold the revelations of insect art and skill: "Great and marvelous are thy works, Lord God Almighty; IN WISDOM HAST THOU MADE THEM ALL."—*From the Canada Farmer of March 15th, 1873.*

The Lessons of the Past Winter.

BY THE EDITOR.

Our average winters are sufficiently hard and trying, to make bee-keeping a matter of difficulty, demanding the most careful and judicious management. But such a winter as we have just experienced is an ordeal which comparatively few apiarians are able to endure. It is a crucial test of the stuff they are made of.

Quite a number of bee-keepers will, after such a season, abandon the pursuit in disgust, and pronounce it a humbug. In travelling through the country the coming summer, observant persons will detect many deserted apiaries and depopulated hives, and on making inquiries, the often-repeated reply will be, "O! bee-keeping is played out;" or "This climate is too hard for bees."

We are in a position to form an estimate of the general state of the bee-business, and the general characteristics of bee-men. That there have been immense losses sustained from one end of the country to the other, is undeniable, and that this fact will have the effect of utterly discouraging many bee-keepers, is equally undeniable. The echo of their discouragement is already making itself heard through a portion of the agricultural press, who can only find one interpretation of the winter's teachings, and that, "Let bee-keeping alone." But it is only a certain class of bee-keepers who are disheartened. It is the negligent, easy-going, partially informed and half-hearted class, those, in fact, who are unwilling to be at the necessary cost of time, trouble and outlay, to master their business. Perhaps it is well these should be discouraged. An element of faint-heartedness is better got rid of out of an army, whether of soldiers or bee-keepers. It is very certain that while the class of bee-keepers just referred to, read the lesson of the winter in the one little word "QUIT;" another and a better class read several lessons, which combine and coalesce in the word "PERSEVERE." Some of the lessons of the winter may be briefly stated :

1. Extensive loss may usually be traced to neglect or oversight of some sort. A small leak will sink a large ship, and a small oversight will ruin a large apiary. For example, the cool fall weather sets in, Jack Frost appears on the scene, but it is early in the season, Christmas is yet far off, the bee-keeper is very busy, perhaps called from home just when some sudden cold snap comes; the bees are in the condition they were during the summer, not fit for out-door wintering; they become chilled, but though they receive after care, it is too late. Or perhaps the bees are put into their winter repository in good season enough, but it is too early to close them up for the winter; they are left open and exposed until a sudden dash of winter makes a raid upon them. Our experience is that a chilled hive is like a frost-bitten limb, peculiarly sensitive to cold all the rest of the season.

2. In order to successful bee-keeping, it is absolutely necessary to read a good bee-journal, so as to profit by the experience and views of others.

3. Stocks must be wintered according to their strength, and put into certain conditions corresponding with the manner in which they are to be wintered. It is naked folly to leave weak stocks out of doors; they may have a chance for life if early and snugly housed, but left on their summer stands they have not the ghost of a chance. Stocks left out must be strong and well protected. Those put in-doors require attention that the temperature and ventilation may be right.

4. The need of more careful experimenting in regard to the best methods of wintering bees. Cannot some plan be devised, by which every colony shall have a warm-up, a dry-out, and a flight sometime in mid-winter? We have thought a closet or cage of white net in a warm room would answer the purpose. It strikes us that if their imprisonment could be shortened, and an opportunity given them to discharge their fœces outside the hive, the mortality among them, even during the coldest winters, would be vastly less.—*From the Canada Farmer of April 15th.*

A Fit of Rhyme.

W. W. Parks, of Clay Banks, Mich., has had a visit from the muses, and gets off the following poetical effusion. We presume it was the contemplation of some handsome Italian queen or other that set the crank going:

I.

"O, beautiful queen,
Why are you seldom seen?
And shut up in a box,
Like a cricket in the rocks?

II.

"Like Noah in his ark,
Always living in the dark,
Always in a quiet mood,
Tending carefully your brood.

III.

"While the workers are away,
Gathering honey all the day,
You're always at home,
Traveling o'er the snow-white comb.

IV.

"While the workers bring your food,
You fill the comb with brood.
Then farewell, my pet,
Keep in the hive, out of the wet."

We suppose that poets, especially young ones, are to be allowed considerable license, but we must remind our friend, "W. W. P.," that Noah wasn't condemned to darkness, inasmuch as he was directed to make a window in the ark. The necessities of the rhyme, no doubt, led to this mistake, as in the case of Marjorie Fleming, who wrote some lines on the death of a favorite cow, and said :—

"She was killed by a splinter,
In the middle of winter."

But truth compelled her to state, in a note, that it didn't happen in winter, in fact it was along some time in spring; but "winter," was the only word that would rhyme with "splinter."

Cross Italians.

Mr. C. Wurster, of Kleinburg, Ontario, writes us a very interesting account, rather long for publication, of his experience in Italianizing. He bought a queen warranted pure, but her progeny were so irritable he could do nothing with them. Suspecting that they were hybrids, he returned the queen to the breeder of whom he bought her, and received another, who seemed very feeble, and after laying a few eggs, disappeared, the bees proceeding to build queen cells on the small piece of comb containing the missing queen's eggs. He expects to receive another queen from the breeder he dealt with, but feels rather discouraged at the result of his $6 investment, and, on the whole, thinks he prefers the black bees. We have no doubt the cross colony were hybrids. Most people who have had any experience in Italianizing have had just such stocks. But that pure-bred Italians are more pacific in disposition than the common black, is a well-established fact in apiculture.

Hints to Inexperienced Bee-Keepers.—In response to requests from several correspondents, we insert in our present issue some articles adapted to beginners in bee-culture. They were written for the *Canada Farmer*, a journal we formerly edited, and to which we still contribute, but will be just as useful to the tyro as though they were indited expressly for these columns.

Extravagant Praise Toned Down.

In our article last month on Mr. King's appeal in behalf of Mrs. Tupper, we quoted a piece of overdone eulogy just as it appeared in the printed slip sent in advance, and which we declined to publish. It read "one to whom apiculture is more deeply indebted than any other." But lo! when the journals appeared, the superlative laudation was wondrously modified, and the sentence read thus: "the woman who has done more to advance the cause of apiculture, than any other who ever lived." We fear lest some who have read the appeal as ultimately published by Mr. King, may have supposed that we mis-quoted the passage. The fact we have stated will show that we did not.

The British Bee Journal.

We are indebted to the courtesy of Mr. R. Symington, of Oxenden, Market Harborough, England, for a prospectus of a new apicultural monthly, just commenced, and entitled "The British Bee Journal and Bee-Keepers' Adviser." It consists of sixteen imperial quarto pages, is printed on toned paper, from an entirely new fount of type, and embraces in its design, illustrations of the highest character. The subscription price is ten shillings and six pence sterling, about $3.50 American money. Correspondence and remittances must be addressed to Mr. C. N. Abbott, Bee-Master, Hanwell, W., England.

The Bee-Keepers of North America, will, we are sure, hail, as we do, this indication of apicultural progress in Britain, and join with us in wishing the new enterprise great success. We hope also, that some, at least, among them, will indulge in the luxury of subscribing for the *British Bee Journal*. Those wishing to do so, can purchase sterling exchange to the requisite amount of some banking-house, or buy an international Post Office Money Order.

Mrs. Tupper's Loss.

We have received letters from leading bee-keepers, and highly responsible parties, entirely approving and sustaining the ground we assumed last month concerning this affair. Further information compels us to take back the admission that Mrs. Tupper may have sustained even a "trifling" loss. On the contrary, we now believe that the fire was a gain to her, and that the insurance amounted to more money than any experienced bee-keeper would have given for her whole apiary when it went into winter quarters, including the choice stocks with imported queens buried out-of-doors, and the unburnt hives that are still on hand. Under these circumstances, a pathetic appeal for aid from the public, such as appeared in Mr. King's journals for last month, should be frowned down by respectable journalists and honest bee-keepers all over the land.

Rev. L. L. Langstroth.

We have received a private letter from the above named gentleman, dated April 25th, 1873, part of which we take the liberty of publishing, as it relates to matters of general and public interest:

"It was my intention to furnish something for your May number, but the pressure upon my time would not permit. I fear the public will think me very remiss in not having long before this prepared an obituary notice of my dear friend, Mr. Colvin. At the time of his death I was so prostrated in health that I attended to no business of any kind whatever. Indeed a month or more elapsed before I even learned that he was dead. Then followed the illness and death of my dear wife, and shortly after her funeral I was obliged to make a journey east. The ill health of Mr. Otis preventing him from doing anything further in his suit against Mr. King, I was at once compelled to take the laboring oar, or have the case postponed till another season, and perhaps indefinitely, You can well understand, after all the pledges that have been given to the public that this suit should be pressed to a decision, my first duty was to give it the necessary attention, even to the neglect of my private affairs. No one who knew Mr. Colvin and the relations between us will ever imagine that I could neglect so obvious a duty as to give fitting expression to his worth as a man and his earnest service to the bee-keeping public; and as soon as possible, if life and health are spared, I shall discharge this sacred duty. I hope that the dear Journal will prosper more and more.

"My bees are all doing well. The prospect now is that the suit will be tried in June next, before

Judge Swayne (at Cincinnati,) of the Supreme Court, and no better man could be desired by any honest patentee. I think that by your next number I shall be able to furnish you some memorial notice of Mr. Colvin, and *perhaps* something on bee matters."

[For the American Bee Journal.]

Information Given.

Vol. VIII, No. 10, page 229, H. W. Davis asks "Who knows" about the Merino Buckwheat? It is good for nothing for bee-forage, and produces neither honey nor pollen. Moreover it is one of the worst weeds that could be got into our western soil. Having raised hundreds of bushels and ground thousands, I ought to know. E. Gallup.

Orchard, Mitchell Co., Iowa.

P. S.—Weather cold and hard on weak stocks of bees. E. G.

April 14th, 1873.

[For the American Bee Journal.]

Honey Jars.

Mr. Editor:—"Novice" thinks honey jars a bother when one is obliged to get over a barrel of honey out of the jars again, after they are nicely labeled, &c. That is very true. But it may not come amiss if I tell my way of handling my machine-extracted honey, as I think it gives less trouble than any other way I might adopt. I keep my bees on the roof of my house; the honey-slinger, friend Stephenson's manufacture, stands in the garret, and holds eighty to one hundred pounds of honey before the honey touches the cylinder. When pumping, I have it as near full as possible before I commence to draw the honey off, so that small pieces of comb and other impurities have time to rise to the top. With this method the honey needs but little skimming. I have two dozen tin honey buckets, which hold fifteen to twenty pounds apiece, with covers to keep flies out, and spouts to have an easy filling of the jars. Four of these buckets fit in a tin pan, which is half filled with water, and gradually heating on the stove, the water comes to a boil, and with it the honey, which is now skimmed and set on a table to make room for four other buckets.

When the honey in the first buckets has cooled off some, there is another little chance for skimming, after which the jars are filled, corked and set on the shelf until they are wanted. Next season I shall cap them all before setting them away, as the tinfoil can easily be washed off when soiled, (not so with labels,) and as it serves a good purpose. One of my neighbors had, as he stated, ants eat through his corks and spoil his honey. I had only two jars spoiled by a very little insect getting in the honey through porous corks. Tinfoil caps would have prevented it. As labels will be soiled by flies and dust, I cap and label only a lot of jars at a time, or at least this is what I have done so far. When the honey candies in the jars in winter, I set a tin pan on the stove, half filled with water, and fill it with the jars of crystalized honey, laying thin strips of boards under the jars, so as to keep the glass from coming in contact with the hot tin pan, and loosen the corks. By the time that the water comes to a boil the honey is as clear as ever; it is then re-corked, capped, labeled and ready for sale. I have dissolved hundreds of jars of crystalized honey in winter, by setting them in the water-kettle on the stove in the store, without removing the tinfoil cap or loosening the cork, and I don't remember of ever having broken a jar, only the label, of course, is spoiled.

It is quite a job to jar a barrel of honey at a time, and to do so five or six times in a year. I should prefer to do it all at once while I am at it, and in the honey season. The dissolution of crystalized honey is a very easy matter indeed, and can be done best in a glass jar by setting it in hot water, as I have proved above.

In regard to the honey oozing out through the tinfoil, in the process of candying, as Mr. Root remarks, I would say that I generally set my jars upright on the shelf, and there is no oozing out whatever observable, but in order to fill a shelf I often lay a lot of jars on their sides, and then I have found some jars leaky, but this has been only when the cork was deficient and the tinfoil not put on tightly.

Chas. F. Muth.

Cincinnati, April 12, 1873.

[For the American Bee Journal.]

Gallup.

Mr. J. D. Drusche, Vol. VIII, No. 10, Page 236, finds fault with Mr. Hosmer and then goes on to tell us the reasons why he lost all of his bees and how he lost them. Now we will venture the assertion that every bee-keeper in the land can and will loose his bees *every winter* if treated in the same manner. We cautioned bee-keepers in the back numbers of the Journal about this very same thing, still they pay no heed to our advice. They are like young children just beginning to walk. When told that fire will burn them they cannot understand at all until they have tried the experiment, and some of them get very badly burnt. We call the loss of forty-six stocks of bees rather a bad burn. We were perfectly satisfiedwith losing five stocks in our experiments under the same head.

Now, Mr. Editor, we leave the readers of the Journal to guess at the reasons of our friend's bees dying as they did, although he has told us plainly the reasons, and after all have got through guessing, we will state who is right and who is wrong. For we see plainly that we have to try another method of beating knowledge into our pupils' heads; a plain statement of facts they will pay no heed to. We must puzzle them a trifle, and then they will remember their lessons better. We will venture the assertion that hundreds have lost their bees from the same cause, and yet but very few are willing to attribute their loss to the right cause.

E. Gallup.

Orchard, Iowa.

According to the new regulations recently issued by the authorities of the German Empire, no hives of bees are to be placed nearer than 93.5 meters to any turnpike or public thoroughfare, no nearer than 46.7 meters from other carriage-ways; and for violating the above rules, the person convicted may be fined twenty thalers, or be subjected to imprisonment.

AMERICAN BEE JOURNAL.

EDITED AND PUBLISHED BY W. F. CLARKE, CHICAGO, ILL.

AT TWO DOLLARS PER ANNUM, PAYABLE IN ADVANCE.

Vol. VIII. **JUNE, 1873.** No. 12

Novice.

Dear Bee Journal.—When we last wrote you we had lost thirteen colonies. Well, about April 1st we had a few pleasant days and everything went on nicely; it is true, but little meal was used, for natural pollen came almost as soon as they could work on meal, and there seemed to be every prospect that even our poorest colonies would "pick up," as they undoubtedly would have done, had not cold rains set in and continued with snow-storms, for variety, until almost May 1st.

About the middle of April we discovered that the cold weather had killed the brood of many of our weak colonies, and they were fast dwindling down. Some, where unsealed syrup remained in the comb, really had dysentery, and were dying, young and old, very much as flies do when poisoned with cobalt.

Mr. Johnson, of Mentor, O., called on us at this stage, and gave us much new light in the way the bee-disease works. (See his article, The Old Bee Theory, in the May number.) If a warm day or days would come, we decided the weak colonies might be saved, but as they didn't, nor wouldn't, our duty was plainly to supply them with it artificially, for we claim it's the "bee-keeper, and not the season, you know."

"Mrs. N., we want the stove in your room, up-stairs."

"Very well, but how will you get it down? It took two men to carry it up, and they had an awful time of it, too. Do you want it now?"

"*This minute*, for our bees are dying, and we positively *cannot* have any more die."

By this time we had the pipe taken off, and, after a little preparatory tilting, to ascertain specific gravity, took it by "main strength and ignorance" (we mean put our arms around it), and sung out to the ladies to get out of the way, and marched boldly down to the bee-house, where we deposited our "precious' load." (No paralysis, now, thanks to diet.) In a few minutes more we had the desired temperature in the bee-house, and, after making it dark, moved in five of our worst stocks, which were immediately put on a diet of good syrup. After this they stopped dying, but one of the five was lost by putting in a comb of hatching brood containing. perhaps, a couple of dozen of bees just hatched on it, and these "infants" stung the queen. Another one contained at one time only *seven bees* besides the queen. We didn't care much for the "seven bees," but we did determine not to lose queens. We had, before housing, tried giving hatching brood, but they were too sick to take care of it, and the young bees died, too, when hatching.

Now comes the point where we want help; *not* theories, but *practical experience.* With proper temperature and sugar syrup in the house, the bees ceased dying and the queens laid eggs in the combs profusely, but examination, day after day, showed eggs still, but no larvæ. An examination of our strong colonies outside showed that for about two weeks we had none, or almost no *unsealed* brood; yet, the comb always contained plenty of eggs. Adair says, in one of his articles, "brood cannot be raised without farina," and careful examination showed our hives contained none. When a day occurred that some pollen was gathered it was used at once and some larvæ was seen, and since May 1st, large quantities of pollen have been gathered, and we never saw brood spread faster.

When Mr. Adair made the above assertion we were inclined to think it hasty, and that we had made experiments to the contrary, but now we would really like to know if any of our readers have ever seen brood reared when there was an entire absence of pollen.

We tried putting rye-meal in our empty comb, placed in the middle of the cluster, but, as in former experiments, the bees would take no notice of it.

Will Mr. Adair please accept our thanks for turning our attention to the subject, for even if the idea be not new it is certain that pollen exerts a very considerable influence on brood rearing.

It is our impression that during the spring months but very few, indeed, of the number of eggs laid by the queen are ever allowed to hatch; and, now, if there is a man, woman or child that can point out to us some substitute for pollen, that bees will use when placed in empty comb, and given them during rainy or bad weather, we shall be ever so much obliged.

Much has been said and written on the benefits of stimulative feeding; yet, feeding honey or sugar-syrup during bad weather, it seems to us, has very little effect compared with the benefits of large yields of pollen, and we are very much inclined to think plenty of sealed combs of honey, or syrup, answer every purpose of daily feeding.

Considerable has been said in favor of *filling* combs with the extractor, yet we cannot see what *earthly use* there is in using the extractor when combs may be filled *both sides* by simply pouring it into the combs from a heighth of a foot or two. By pouring from a kind of strainer that will produce a number of small streams, a number of combs can be filled very quickly.

The most utterly impracticable extractor that it has ever been our lot to try was one recommended for the above purpose, tried in our apiary last season. Two metal baskets at the ends of revolving arms, to swing out horizontally, constituted the machine, and the centrifugal force was fearful, indeed, when the contents of a pair of combs were deposited in them.

The first trial was made in our bee-house, but after making a streak of honey entirely around the house, spectators and all, we decided to adjourn out-doors; and, a second trial *there*, satisfied even the owner of the "right for the State of Ohio" that, although the machine might be good for some things, it wasn't good to get out honey.

It seems that Mr. Quinby, with many others, has an impression that we recommend a small hive and a cheap one; and, again, that $1 pays for the whole complete, yet it seems to us we have gone over the ground often enough.

It matters not what frame be used, neither the length nor depth, but simply the case to hold them; and, with any of them, we stated that a single story, such as would be required to hold the bees and stores in winter, for instance, should be made for $1. Two, or even three, such stories may be needed for surplus and for box honey; we advised making the Langstroth hive *double width* and two stories; this would be much the shape and size of Quinby's hive, and with us would be much easier to handle, besides enabling us to use the same frames we have in our other hives.

We think, even, Mr. Q. would concede that such an arrangement will give just as much box honey as his own, and then we should have only to consider which form of case and frames was easiest to handle. As we do not think alike on this subject we would suggest that every bee-keeper exercise his own judgment in the matter, and if he be inexperienced let him visit apiaries of from 50 to 100 colonies, in the working season, managed both ways or with both kinds of hives.

If Mr. Q.'s or Mr. Hazen's or Mr. Alley's hive will give 200 pounds of box honey per season we should adopt them by all means, but we should not think of paying anyone for a right to place boxes around the brood combs in any position we chose.

Our reports from the above hives are nearly all isolated instances. Cannot some one tell us what fifty colonies have done on an average, or has no one ever had so many of the hives mentioned in one apiary? How many has Mr. Q., himself, of the kind he speaks of, and have they given him 200 pounds on an average any season?

We have here reported our yield of honey each season and think it a pretty fair average, even poor seasons.

We never let our bees lack for room, and we can't think Mr. Q. means to intimate that more honey will be made in boxes than in frames. It has been our impression for many years, that the hive had little to do with the yield of honey, providing that room be always given just so fast as needed, and we have little doubt but that the long hive described on page 250, May number, would give as much honey as the two-story Langstroth, begging Mr. Adair's pardon for the illustration.

It seems to us that it would be inconvenient to "lug" it all in the house to winter, and it would take twice the surface of bottom-board and cover that one of the same kind would of two-story.

In conclusion we would ask our readers to use caution in making a lot of any of the *extreme* forms of hives advertised (double walls for instance). Where you find apiarias of considerable size managed satisfactorily for several years with a hive, there can be but little risk of adopting them.

As it has been clearly demonstrated that one kind of a hive or one-sized frame won't suit all, can't we compromise the matter so far as to settle down on about five different dimensions of frames, of

Quinby's frame,	18½ x 12	inches	outside.
Langstroth "	17⅝ x 9⅛	"	"
American "	12 x 12	"	"
Adair "	13¾ x 11¼	"	"
Gallup "	11¼ x 11¼	"	"

If we are incorrect in any of the above we are willing to be set right, and would ask the aid of others in sifting the matter down to as small a compass as possible.

Novice.

P. S.—We can't see, in looking at the above, that we have mentioned anything we might want "to sell," unless it be "the stove," and "Mrs. N." says "that ain't for sale no how."

[Translated from the Brenenwirthschafthehes Centralblatt.]

Foul-Brood.

REPORT OF THE COMMITTEE APPOINTED BY THE CENTRAL ASSOCIATION OF BEE KEEPERS IN THE KINGDOM OF HANOVER, TO TEST THE METHOD OF CURING FOUL-BROOD, DISCOVERED BY HERR LAMBRECHT.

[Journal of Proceedings, No. 1.]

Met at Voxtrup, near Osnabruck, July 24th, 1872. Present--Pastor Kleine, of Luethorst; Baron v. d. Bussche, of Hunnefeld; Professor Hemme, of Nienburg; Professor Nasbaum, of Voxtrup, as the committee appointed by the authority of the Central Association of Bee-keepers of the Kingdom of Hanover, to investigate matters relating to foul-brood.

It was there determined to examine the eight foul-broody hives (six in boxes, two in straw baskets), during which time Herr Lambrecht applied muriatic acid to two of the hives. This application was followed by no result other than the turning of blue litmous paper red, when dipped in the honey.

Hive No. 1.—A bastard Italian swarm with five brood-combs was examined. It was found that nearly one-tenth of the brood was decomposed, and that as well in the opened as in the scaled cells. The least infected brood was found in the first and second combs, more in the third, fourth and fifth.

Hive No. 2.—Had black bees and very few of them, and the foul-brood scattered through the three combs, and the decomposition was in various stages; on the whole somewhat viscous and bad smelling.

Hive No. 3.—A stock with four brood-combs, over which the foul-brood was somewhat spread. There was also decomposed drone-brood. Here, also, there were various stages of decomposition. This was a virgin swarm of this spring; the empty combs given it were taken from a hive which, some three years ago, had had foul-brood and eventually died.

Hive No. 4.—Contained Carnolian bees, rich in numbers, and, according to the statement of the present owner, became, about the beginning of June of this year, afflicted with foul-brood. Towards the end of June the disease appeared to diminish, but after the first of July gained renewed strength. This stock is remarkable for this; that through the transferring to a healthy swarm a piece of comb, two inches square, containing eggs and larvæ, the disease was communicated to the healthy swarm. The disease was but little developed in the first comb, but brought itself to one's notice in the remaining four by its viscosity and foul odor.

Hive No. 5.—A bastard Italian, rather weak in population, having five combs of brood; the first of which was specially affected with foul-brood, while the 2d, 3d and 4th were not so much affected. In the 5th comb, however, the disease made a stronger appearance. This hive, according to the statement of its former owner, was kept alive by inserting combs of brood from healthy stocks.

Hive No. 6.—Was an Italian stock in a twin-hive, containing about eight combs of brood. This hive was intensely foul-broody, containing a very large number of decomposed larvæ and giving forth a very putrid stench.

Hive No. 7.—Was in a straw basket. The bees were the common German bee, few in numbers, and showed foul brood through its whole extent.

Hive No. 8.—Was also a straw basket hive, with a queenless colony, owing to which fact this colony received no further attention from its owners.

The stocks were assessed at the following values:

No. 1 at - - -	7 Thlr.	25 Syr.
No. 2 at - - - -	5 "	— "
No. 3 at - - -	5 "	20 "
No. 4 at - - -	12 "	— "
No. 5 at - - -	7 "	— "
No. 6 at - - -	10 "	— "

No. 7 and 8 were, after valuation, purchased for 10 thlr. 15 sqr. Two healthy stocks, purchased for the purpose of strengthening the diseased ones, cost 10 and 12 thlr. apiece.

Of the six hives presented, the Commissioner threw out, as unsuitable, hive No. 2, and let Herr Lambrecht free to choose three or four from the remaining five stocks, upon which to apply his remedy, and under these conditions: That everything shall be done under the eye of the President of the Commission, his remedies to be applied at his own time; no change, however, to be made in the combs, nor bees added to the stock to strengthen them. He may, however, have the liberty of taking out the combs and opening the cells.

These conditions, determined upon by the Commission, were then made known to Herr Lambrecht, who declared himself prepared, under the above conditions, to cure the three or four swarms, providing that the remaining infected swarms be removed some distance, so that they may not intefere in the disinfecting of those under his charge. It was then resolved that Herr Lambrecht have full power to convene the Commission whenever he shall have completed the cure of the hives placed under his charge.

G. Kleine, C. v. d. Bussche-Hunnefeld. C. Masbaum, President; H. A Hemme, Secretary.

[Journal of Proceedings, No. 2.]

At Voxtrup, near Osnabruck, July 25th, 1872. Herr Lambrecht chose three of the five swarms on which to apply his remedy Those chosen were Nos. 1, 3 and 4. He declared his willingness to undertake the cure of No. 5, but not to be bound, as regards this one, to the conditions imposed by the Commission in regard to the others. On the following day, July 26th, the combs were taken out of hive No. 3; the bees upon them brushed into a straw basket hive, which was shut and then placed to one side.

Comb No. 1 (at the entrance of the hive), was first taken in hand. Referees, upon examination, declared that fully three-fourths of the brood in the upper half of this comb was infected. Herr Lambrecht, in opposition, declared that fully nine-tenths of the brood was infected.

This mass of decomposition was removed from the cells. Herr Lambrecht labored at these combs (42cm nigh x 26cm broad), with assistance some three hours. Then comb No. 2, which likewise contained sealed brood, was taken in hand and treated in the same manner as comb No. 1. After Herr Lambrecht had thus worked for about half an hour, he arose and declared that the conditions determined upon by the Commission were impracticable.

Upon the wish of the Commission, Herr Lambrecht made the following declaration:

To President of the Commission, Prof. Masbaum:

I hereby declare that I am in a position, according to my tested method to cure swarms affected with foul-brood, but am not able to work miracles; thus, I am unable to restore as living beings, the 90 per cent. of decomposed brood found in comb No. 3, and, not being allowed to apply the knife to the patient, I clearly cannot comply with the conditions imposed by the Commission.

I will remove the pest, and destroy its contagious character, and bring the suffering bees to their normal state. To do this I need the knife, and according to the various circumstances must apply divers remedies. Should you not be satisfied, and allow me a free hand in carrying out this cure, then I will leave tomorrow, and he who can may try his hand at healing the swarm.

A. LAMBRECHT,
Chemist and Bee-keeper.

Voxtrup, July 26th, 1872.

After the referee had reflected a considerable time over the matter, he assented to further proceedings, and hive No. 3 was managed in the following manner:

Comb No. 1 was not mutilated; from comb No. 3 was cut out and new inserted; comb No. 3 was cut away, except about two-fingers' breadth. The hive thus received three frames, one comb containing much unsealed honey, but no brood was left out.

On the 27th of July hives Nos. 1, 4 and 5 were taken in hand. From No. 1 was removed considerable brood and uncovered honey; the sealed honey was left.

From No. 4 the combs were all destroyed to within two inches of the top. The hive held four combs. No. 5 was treated in the same manner as No. 4.

After the referee had examined No. 6, Herr Lambrecht took it in charge. Considerable quantities of comb were cut out, and six frames with new comb began in them substituted.

A. LAMBRECHT,
G. MASBAUM.

Voxtrup, August 1st, 1872.

[Journal of Proceedings, No. 3.]

At Voxtrup, near Osnabruck. On the 13th August Herr Lambrecht made his appearance here for the purpose of inspecting the stocks. In hive No. 3 there was found in comb No. 2 (the middle one), more putrid cells in the upper half of the comb. This upper portion, so far as the foul-brood extended, was cut out on the 16th of August.

In hive No. 4 were found some diseased cells, which were removed and the entire comb returned to the hive.

In hive No. 5 were found a few diseased cells. (N. B.—This swarm lost its queen at the beginning of August, which was replaced by the referee, which still remained confined. On the 17th of August she was freed.)

The examination of hives Nos. 1 and 6 did not reveal the presence of any foul-brood whatever.

A. LAMBRECHT,
G. MASBAUM.

Voxtrup, August 16th, 1872.

[Journal of Proceedings, No. 4.]

Voxtrup, near Osnabruck. On the 20th of August the referee examined the stocks with the following results:

Hive No. 3 exhibited in first comb many diseased brood-cells. Referee cut out of the upper portion about the size of a hand.

Hive No. 4 showed some few cells of diseased brood.

In hive No. 5 there remained some covered cells containing brood of the former queen, which, by the holes in their caps, showed that they were diseased; there were in all twenty-four pieces. During the examination the queen flew away. On the 26th of August the referee introduced a protected queen-cell.

The examination of hives Nos. 1 and 6 did not reveal the presence of any foul-brood.

G. MASBAUM.

Voxtrup, August 20th, 1872.

[Journal of Proceedings, No. 5.]

Voxtrup, near Osnabruck. On the 5th and 6th of September, Herr Lambrecht gave the hives a second inspection.

In hive No. 3 he found a few diseased brood-cells, sealed as well as unsealed, not exceeding fifty in number. After Herr Lambrecht had applied his remedy, many of the bees accompanied by the queen, rushed out of the entrance and threw themselves upon the neighboring hives, where they were slaughtered in great numbers. The referee found the queen after a short time in front of the stand.

In hive No. 5 there were two combs of brood from the queen given them on the 15th of August. In the examination fifty diseased cells were found. The queen-cell was opened, but the queen had not yet laid any eggs, yet appeared to be impregnated.

In hive No. 4, in an unsealed cell, a dead larvæ was found.

Hives No. 1 and 6 contained no foul-brood.

A. LAMBRECHT,
G. MASBAUM.

Voxtrup, Sept. 6th, 1872.

[Journal of Proceedings, No. 6.]

Voxtrup, near Osnabruck, Sept. 24th, 1872. Present—Pastor Heine, Baron v. d. Busshe-Hunnefeld, Prof. Masbaum and Prof. Hemme. There were also present at this inspection of the hives the following persons, who were also present at the first inspection: Herr Mayor v. Lensengen, Herr Middendorf, Herr Goken, all from Osnabruck, and Herr Lambrecht.

After the inspection of the hives, which had been treated according to Herr Lambrecht's method the following questions were put to the committee:

1. Did Herr Lambrecht accomplish a cure of the diseased swarm by leaving the combs and the great mass of diseased brood?

They were unanimous in answering, "No."

2. Did Herr Lambrecht cure the foul-brood by cutting away the foul matter and comb containing unsealed honey, so far as it has been declared infected?

They were unanimous in answering, "Yes," as to three of the four stocks, whereby it is the judgment of the Commission that the disease was carried to hive No. 5 by robbers from hive No. 3. The Commission would suggest to the executive committee of the Central Association, that these investigations should be pursued still further, it being the opinion of the committee that, in view of the results already arrived at, further investigation would be productive of beneficial results. The Commission has determined not to cease in its labors, but to continue them in order to meet all objections

Kleine, C. v. d. Bussche-Hunnefeld. Hemme, Secretary; Masbaum, President.

REPORT INCLUDING THE JUDGMENT

of the Commission appointed by the Executive Committee of the Central Association of the Bee-keepers of Hanover, to test the remedy of A. Lambrecht to cure foul brood.

Bees, like all created beings, are subject to disease of various kinds, among which foul-brood is the most destructive. The dangerousness of foul-brood lies in this, that the bees, the hives, the honey, etc., all serve to spread the pestilence among healthy colonies Foul-brood is widely spread throughout Germany, and yearly accomplishes untold damages, since should the disease make its appearance in one stock in an apiary it will soon infect all the rest and possibly destroy them.

Men of science, such as the great masters of bee culture, have, to the present time, in vain struggled against this disease. We would here merely remark, that Pastor Dr. Dzierzon some years back nearly lost his entire apiary, consisting of some hundred stands, through this disease, and is still of opinion that this pestilence is incurable.

Some years ago a chemist, A Lambrecht, of Bornum, near Borssum in Braunschweig, made the assertion that the corrupted food, namely, soured pollen, was the cause of foul-brood. He claimed also to have discovered remedies for curing the disease. Thereupon the Bee-keepers Association of Braunschweig, in 1869, gave Herr Lambrecht a healthy swarm of bees, with the request that he should first introduce foul-brood into the colony, and then through his remedies remove it, all of which Herr Lambrecht declared himself able to do. In the judgment of this Commission in Braunschweig, he solved both the questions.

Thereupon, doubts were raised in certain bee journals, declaring that the result arrived at was not satisfactory to the Braunschweig Commission.

At the meeting of the Directors of the Bee Association of Hanover, May 7, 1870, the proposition was made to give this system of Herr Lambrecht another trial. It was agreed to, and the undersigned were appointed a Commission with full power to take all proper steps for the accomplishment of their purposes. The Commission purchased from various portions of the country swarms infected with foul-brood, and had them brought to Voxtrup, near Osnabruck. On the 24th of July, 1872, they met Herr Lambrecht at this place, and at once examined the hives to see whether they were affected with the destructive and contagious foul-brood. Five of the eight hives were declared to be in the first ranks as regards this pest, and were given over to Herr Lambrecht to cure.

While the Commission does not desire to enter again into all the details, still they think it best to extract the following from their journals:

1. A healthy, virgin swarm, stock No. 3, had become diseased with foul-brood through the introduction of empty combs, which had formerly been in a hive that had been destroyed by foul-brood.

2. A piece of brood-comb two inches square, taken from swarm No. 4, introduced foul-brood into a healthy stock, all of which shows that the hives upon which they were to experiment had the true, contagious foul-brood.

It should here be remarked that of the members of the Commission, Prof. Masbaum was always present, and Baron v. d. Bussche-Hunnefeld generally present when the remedies were being applied.

When Herr Lambrecht had applied his remedy and declared the cure effected, the Commission, on the 24th of September, made a careful examination. The result of this examination was the conviction of the members of the Commission that the remedy and management of Herr Lambrecht cured the foul-brood and destroyed its contagious character. Now, if the remedy of Herr Lambrecht is found to be successful when applied to movable comb hives, there is every reason to believe that his management will be successful when applied to straw basket hives or box-hives.

The high value and great advantage to bee-keeping of this discovery was so apparent to the Commission that they have recommended it to the attention of the Royal Prussian Minister of Agriculture, and expressed the wish that this remedy would be purchased for the benefit of bee-keepers.

Herr Lambrecht desires for the purchase of the remedy the donation of 2,000 thlr. The Commission think this a moderate sum: First, because Herr Lambrecht expended, during many years, both time and money in perfecting his happy discovery; and second, by this conquering of foul-brood many small bee-keepers will no longer lose large sums through the death of their bees, and less ready money will be sent out of the country to purchase wax and honey.

MASBAUM, President,
G KLEINE, Editor Centralblatt,
C. VON DEM BUSSCHE-HUNNEFELD,
December, 1872. Commission.

REMARKS OF PROF. H. A. HEMME, OF NIENBERG, ON THE ABOVE REPORT.

This report, in regard to the examination, made on the 24th of September, says "The result of this examination was the conviction of the members of the commission that the remedy and management of Herr Lambrecht cured the foul brood and destroyed its contagious character, etc."

I must state that my judgment in this respect does not agree with that of my colleagues. I do not doubt that Herr Lambrecht, by repeated removals of the foul brood matter, is in a position to cure the disease. With such management one does not need, as I through experience know, the remedies of Lambrecht, but the disease can be cured by other remedies. As Herr Lambrecht is unable to effect a cure without destroying the comb, as he declared, both orally, before the commission, on the 24th of July last, and in writing, by his declaration of the 26th of July; so, in my judgment, his remedy is not so valuable as the report and judgment of the commission would lead one to suppose it to be. In my judgment, the examination of September 24, does not prove that the three hives were radically cured, but only, that on the day of examination (September 14), not the least germ of foul brood was to be found. In my opinion the test of the perfect cure of the hives can only be when the young brood of next spring appears.

As in the journal of the commission of September 24, 1872, the commission expresses the wish "that these investigations be pursued still further," etc., so as regards myself can the wish be expressed, that the decision of September 24 was not a final and safe one, but that the hives demanded further looking after and future examinations; and further, that Herr Lambrecht should undertake to cure foul brood in box or straw hives having immovable combs.

H. A. HEMME, Member of Commission.
Nienberg, Jan. 17, 1873.

[For the American Bee Journal.]

Walled In.

"Now, this sounds dreadful," every one will exclaim, thinking at once of walling in of living men! Although it is not a nun, it is a bee, and though it is not a cell of stone and mortar in which she is enwalled, it is a cell of wax. But how did it occur? A fine, delicate honey-comb, weighing about four pounds, is to be cut from its frame. It is cut from the frame, leaving about an inch margin to aid the bees in building their new comb. Behold, in a cell which crosses the middle partition walls of the comb, oblique in direction, crossing the other cells, as if made out of the partition, lies a dead, fully developed bee, resting in her waxen tomb! What a dark history lies hidden there! We wont raise the curtain!

[For the American Bee Journal.]

Wooden Vessels for Bees.

Herr Baist advises in feeding bees in winter and spring the use of wooden dishes or troughs instead of tin, wood being a good non-conductor of heat, does not cool so rapidly as tin, and thus cause the death of the bees standing upon it. The sugar water should be given to the bees lukewarm. It is dangerous in spring to remove combs of brood from the hive, because it will perhaps reduce the working bees too much; and it is still more dangerous to give a weak swarm a comb containing more brood than they can protect, as then some of the brood will perish and produce disease. The safest way to aid bees is to furnish them with combs filled with honey, which need no protection, and are always ready to be used.

[For the American Bee Journal.]

Recollections and Results.

In 1860, after having passed into my seventieth year, fifty-one years of which time had been employed in trying to publish the truth of the gospel by preaching the Word, and publishing papers, both moral and religious; I was inclined to interest myself in bee-keeping. My impression in favor of the large hive, with abundant and easily accessible room for surplus honey, left no doubt in my mind of the general character of the hive for general use to secure the object.

The result was the construction of hives with abundant room, with more variations and changes than I can now describe, or even remember. But with the simplicity of the construction, the objects to be secured, (viz.:) the greatest amount of surplus at the least amount of time, attention, and monied expense I have no doubt, I have approximated.

At the start I had to encounter an apparently insurmountable obstacle. M. Quinby, author of the "Mysteries of Bee Keeping Explained," a work deservedly popular, of unquestionable authority among leading bee keepers, in his work had struck an estimated, fatal blow against non-swarmers. (p. 35.)

He supposed the swarmer would yield one dollar's worth of honey annually and give one new swarm amounting to 512 stocks of bees at $5.00 each $25.00, and about $1000.00 worth of honey, amounting to $3,500.00 while the non-swarmers' product was $55.00.

He made the mistake of one year in his estimate, or the swarmer's profits would have been doubled, $7,000.

Is it not strange that a man who has a colony of bees should believe and argue that it is better to put it into a hive that will give him but $1.00 in surplus honey, instead of one that will give him $5.00. Indeed it is doubted whether it is best to put it into a hive that will give 50.00 by some. (The date of the edition of this work is 1853.) In his edition of 1865 he gives two dollars worth of honey instead of one dollar for each hive, and gives ten years instead of nine—correcting the former error.

Swarming hives only were in use in every apiary in my knowledge except a very few Colton hives, superanuated remains of former times.

Recently Messrs. Quinby and Alley have each presented hives for public approval, and are so much an imitation of mine that a writer in the A. B. J. pronounces the three the same, so much that trying one is a trial of the three. One story, in many instances I believe, has been added to the Langstroth hives, admitting two courses of surplus boxes upon the top. Large and high hives are increasing with encouraging speed.

I do not feel so much interest to see a comparatively few experts growing rich in the honey gathering, as in seeing every farmer with a suitable number of colonies to gather his field, with no need or trouble of additional swarms, securing his one hundred to five hundred pounds annually. That this may be done with the simple outlay of from ten to fifty dollars the first year, and comparatively nothing after, I have little or no doubt.

Perhaps the safest way would be to begin with one colony the first year. The hive and swarm, with twenty-seven surplus boxes, would cost fifteen dollars. If the swarm was early and large, and the season a good one, they would cover the expenses the first year, and the second year and each following season, give from fifty to two hundred pounds, as the working force, the field, and season should prove. The second or third year a second colony might be introduced; and the number increased according to the capacity of the field.

With a breeding apartment of from 2500 to 3000 cubic inches, with side and top surplus boxes of 100 to 200 pounds capacity, if kept where the air is fresh, and shaded from the sun, I think they would never swarm, and would annually give from 100 to 200 pounds of surplus. Under such circumstances colonies frequently continue 20 or 30 years.

The general introduction of such hives to the exclusion of swarmers, would increase surplus honey 500 per cent.

But what shall we do for swarms? At the close of white clover honey harvest, remove the surplus honey boxes, and, by the movable partitions, confine the bees to their breeding apartment, and a swarm would probably issue in a very few days.

JASPER HAZEN.

Albany, May 13, 1873.

[For the American Bee Journal.]

AMERICAN BEE JOURNAL.—During the past two years there has been considerable of an interest excited in bee-keeping in this part of the country. The past winter, however, has dampened the ardor somewhat; the loss here being probably ninety per cent.

In this vicinity, of twelve apiaries, containing a total of two hundred and seventy-four stocks last fall, there are but thirty-one stocks still living, some of them very weak. Five of the twelve lost all, and in one apiary of thirty stocks, the loss was but fifteen.

In one case the loss was chiefly by desertion of the hive in the spring—one or two swarms deserting even after young bees were hatching, leaving eggs, larva, sealed brood, sealed honey, and fresh bee-bread or pollen.

Now, can any one tell what made them do that? **TYRO.**

[For the American Bee Journal.]

“Improved Breeds of Bees.”

REPLY TO D. L. ADAIR.

MR. EDITOR:—Will you permit a young head to answer an old bee-keeper in the columns of your journal.

Under the above heading (A B. J. p. 242), Mr. A. gives us his ideas on the improvement of the honey bee. I will agree with him in saying that bees can be improved. But if we are going to try to improve our bees, should we not begin with the best breed that we now have? And what is the best breed? Mr. A. will give the answer: “The superiority of the Italian bee over the common bee of the country is now generally admitted by all who have tried them.” (*Progressive Bee-culture, p.* 20, 1872.) I suppose that the above is sufficient authority for Mr. A., without referring to other writings on the subject.

It is true that Mr. A. “attempted to show that we cannot improve our bees by further indiscriminate (?) importations,” but if the Italian bees are superior to the common bees why should we stop importing them?

Mr. A. says: “The bees of the Parsons importation were the best I have had, although I have had bees from *nearly every* importation that has been made.” This is not quite exact, for Mr. A. never had a single queen from the numerous Dadant importations. I know also of several importers who never received an order from him.

Is the Italian breed of bees superior to the black? Mr. Adair, and ninety-nine hundredths of the bee-keepers answer: Yes. Then, in the name of common sense, why not breed from them if we intend to improve our bees? What would you think of a farmer who in trying to start a new race of hogs would begin with the lean, long-nosed race fifty of years ago. Before improving our races of bees artificially, let us first get the race that has been best improved naturally, and improve it further.

The first desirable improvement that Mr. A. speaks of is “the fecundity of the queen.” Let me here correct an error. Mr. A. says that the ovaries of a queen contain five hundred thousand eggs. “Berlepsch had a queen that laid thirteen hundred thousand eggs in four years.” (*Les Abeilles, p.* 42.) Von Siebold supposes that the number of eggs contained in the ovaries is not less than three million. Leuckart says: “If we compare the capacity of the spermatheca with the size of a spermatozoa, we find that it can contain twenty five million of the latter.” We should therefore try to increase the fecundity of our queens by giving them a good chance to lay as much as possible. But *remember* that we must start with the best breeds and that the Italians “are more prolific than black queens,” (*Adair's annul of Bee-culture, p.* 31, 1869.)

The second desirable improvement “is quietness.” Which breed is the most quiet, Italians, Blacks, or Hybrids? Mr. A. acknowledges that the Italians “stick themselves tenaciously to the sheets of honey and brood,” but he calls that “cowardice.” In the same number (p. 254.) Mr. Quinby says: “The black bees, as soon as the first impulse is over, run away and try to hide.” If the act of sticking to the combs is called cowardice, by what name shall we call the action of the black bees that run away to the other end of the hive as soon as one end is opened? Is it not true that a frame can be lifted from a pure Italian stock with queen and bees on it, and carried away into the house amongst a party of people without the loss of a single bee, and without danger of stings? Is it not true also that when a frame is lifted from the stock of black bees, with or without the queen, nearly all the bees on it either fly away or fall to the ground, crawling up in the pantaloons of the operator? Indeed, the black bees are easier to drum out than the Italians, but does not Mr. A. know that with our improved hives, (*not his,*) we never need to recur to this troublesome practice? As to brushing them from the frames in using the *Melipult,* (*Melibole, Krusckla, smelatore, melextrator,* honey extractor, honey slinger, honey emptying machine,) we will simply ask “Novice” what breed of bees he prefers for this purpose. “Novice” is not interested in the sale of Italian bees, and besides we are certain that he has more experience in this matter than Mr. A., probably because his frames are easier to handle than those of Mr. A.

Third improvement The destruction of the bee sting. I am one of those who believe in the possibility of this improvement, but let me inform my readers that Mr. Adair is not the inventor of this *new idea.* It was first put forward in August, 1856, in *L'ami des sciences,* (*Paris,*) and also in *L'apiculteur* 1856, '57, '60, by Mr. Ch. Leblon, under the name of *Demucronage,* (Lat. *mucro* point, sting). Later, Mr. A. has probable read about it in the *Journal des Fermes, p.* 281, (*A. Buzairies, p.* 401; *Ch. Dadant, p.* 421; *Ch. Leblon,* 1870.) The Demucronage will certainly take place sooner or later, if man desires it, but until we get stingless bees is it not best to keep none but the gentlest, and are not the “Italians more peacable than the blacks”? (*Adair's Annuals of Bee-culture, p.* 31, 1869.)

Fourth improvement. “The suppression of the swarming instinct.” I will agree again with Mr. A. in saying that this would be an improvement, although I have to differ from him when he says that swarming is the result of the “abnormal conditions.” In a state of nature, swarming is the only way in which bees can reproduce and increase their race, and what is there more natural and *normal* than the laws that govern reproduction and increase?

Fifth improvement. Association of several queens in one colony. I do not see any benefit in this improvement other than the increase of brood in the same hive, but on the other hand, if we keep several queens in one hive, how shall we know which one is the best, the youngest, the purest, the most prolific? And if there are the defects among their bees how shall we find out which is the wrong queen? This *new idea* of association among bees has already been put forward, although not quite on the same plan, by Ch. Leblon, as Mr. A. can see in the *Journal des Fermes*, (p. 289, 2d year). Mr. Leblon has tried the association of *colonies of bees*. He united forty two hives in a large room by placing the hives side by side so that they could communicate together, and allowing but one entrance for all. But his was no improvement and any body who will read his article on the subject will be convinced that his trial was a failure.

Sixth improvement. The lengthening of the proboscis of the bees. This is another *old-new idea*. It has been hinted at by my father in the 3d vol., of A. B. J., p. 194, 1867. I can find no fault with this improvement, but I ask whether we had not better commence breeding from the stock of bees that have the longest proboscis? And is it true that the Italians have a longer proboscis than the blacks? Does not Gallup say that he has seen seasons when the Italians gathered freely from red clover when the blacks could get nothing?

Mr. A. disparages the Italian bee because of some slight variations in its native country. He wants uniformity. How can he expect to get it if he stops breeding from the most uniform breed of bees that is known? And what advantage will he derive from breeding either the hybrid or the black, or even the gray bee, when neither of these kinds are known to be any better than the Italian in any respect, and when they are acknowledged to be inferior in many points? As to saying that the Italians are not superior to any other bees, it is impossible for any body who has tried them *seriously*, and Mr. A. could not say it without contradicting himself. Then, why does he try to disparage them?

I have been told by one of his acquaintances that Mr. A. has allowed his bees to run back into the hybrid and black breeds, that he cannot easily re-Italianize them on account of the difficulties of management of the A. hive, and that Mr. A. would like to *start* the *Gray bee* of his vicinity, but I consider all this as gossip and would not pay attention to it. I speak of it simply to show Mr. A. what some persons say. For my part I believe him to be a gentleman who has the good of bee-culture in view, and I am sure that my brother bee-keepers will agree with me in this respect.

C. P. DADANT.

Hamilton, Ill., May 9, 1873.

[For the American Bee Journal,]

From Missouri.

EDITOR, JOURNAL. I drop you a hasty line not exactly as a communication but rather as giving notice to all " bee-keepers " in the United States, and other countries, where apiculture is practiced, that all may have a chance to be present with their articles, products, etc.

It is expected that there will be offered at the next exhibition of the *Kansas City Agricultural and Mechanical Exposition*, premiums amounting in the agregate to five hundred dollars. Say one hundred and fifty dollars, ($150,) for the best honey by any association. One hundred dollars ($100,) for the best individual display of honey. Fifty dollars ($50,) for the best average yield extracted from not less than ten colonies. Twenty five dollars ($25,) for the best yield, extracted from one colony including all honey made by the one colony, and the swarms that may be made from the one stock, commenced with this spring. Twenty five dollars ($25,) for the best yield of box honey, from not less than ten colonies. Fifteen dollars, ($15,) for the best yield from one colony and its swarms of this year of box honey. Five dollars, ($5,) for the best specimen of honey in the comb, all to be the product of the year 1873, except the old colonies. Each entry to be accompanied with a written statement of the whole facts in regard to mode, method, and treatment, etc., under the signature of the parties making the entries. Fifty dollars for the stock of bees, including queen, etc.; the queen and stock of bees that takes this premium to be sold on the ground at one o'clock, the last day of the exposition, to the highest bidder, and the proceeds thereof, to be used in getting up a suitable medal, to be presented to the raiser of the said stock of bees. Twenty dollars ($20,) for the best and most practical " beehive." Ten dollars ($10,) for the best and most practical *Mal extracter*.

We expect to have a separate department, with department superintendent who will be selected by the Kansas Exposition Association.

It is expected that this enterprise will prove a grand success. As every member of the Greenwood Beekeepers' Association will use every laudable means to make it such.

We hope to see all of the great men of the United States and Canada, and many from other Isles present so that we can have one big " Pow-wow." Now I must close for fear that it will be too long for you to publish in so short a time, as we wish it to come out in the June number. *Success to the* old " Journal."

Your Obedient Servant,
JAS. D. MEADOW, President,
Greenwood Beekeepers' Association.
Independence Mo.

N. B.—We do not mean the foregoing as an advertisement, but simply mean that it is for the good of all aparians. J. D. M.

[For the American Bee Journal,]

An Old Man's Views on Hives.

If the great losses annually sustained by the bee-keepers of this country, did not so often fall on those who are the least able to bear them; the old, the feeble, and on such as are unable to procure a living by more laborious callings; I should feel greater reluctance on account of my age, being nearly seventy seven years, which necessarily renders me an old fogy in the opinion of so many; and the fact that I have not attempted to write with a pen in ten years, on account of my trembling hand, to present this communication to brother bee-keepers, who may have had the same woeful experience as myself in regard to the safe wintering of bees; yet I hope there are some, among the many, who will not too severely censure what is well intended, if its want of merit should prevent their approbation.

I have read with great interests the discussion of the bee-keepers of this wide country, in their conventions, as reported in THE BEE JOURNALS, on all of the topics in relation to bee-keeping; and I marvel that so many bee-keepers should have been so mistaken in regard to the *cause* of the calamities attending the safe wintering of bees, and should have entirely overlooked the absolute necessities of the bees, in the construction of all the improved hives now in general use; when such hives could have been so easily made to conform to the necessities of the bees, without abating anything from the value of the improvements. The allwise Creator, no doubt has given to the creatures He has created, instincts in accordance with their natures, and to the honey bee the instinct, to provide for its own future wants in winter's cold, and summer's heat and wet, and drouth, (without any aid from man,) and to propagate themselves in every country, and in every latitude through all time, wherever the Creator Himself had provided for their necessities. In the native and natural bee hive, the entrance is below the place occupied by the bees, and the air space above, and below the entrance, is often from two to five times as large, as the space occupied by the bees; and if it is not larger, than in the improved hives, it is the exception, and is not common. Now a beehive cannot hold itself twice full at the same time, any better than any thing else. In the first plan, the hive is full of air, and whatever is put into the hive forces out so much air. The space occupied by the bees is all filled with combs, without any air space around them, except below, and these combs may all be filled, (and often are,) with brood and honey without any detriment to the bees. Almost every person knows that air seeks to be of an even temperature, the same as water seeks to be of a level,—that air expands when it is heated, and is therefore lighter to the cubic inch, or foot, than cold air. Now in the natural hive, this large air space is necessary,—it is cooler in summer, and warmer in winter; it lets the dead bees and every thing fall down clear from the combs, and keeps them clean and dry—it contains so much air, that it cannot become moist from the breath of the bees; and when cold weather approaches, the pressure of the cold air at the entrance compresses the warmer air on the inside of the hive, and the cold air enters, but it *cannot* go up, but *must* go down, because its specific gravity is greater, and the warmer air rises up and is constantly floated toward the bees, and the warmest air at the top being the most expanded, is the most easily compressed, and as it increases in density, increases in specific gravity, and sinks down and is forced out at the entrance; and this gives a little more room for cold air to enter; and thus a constant circulation, equalization and purification of the air is kept up in accordance with the established laws of nature: and thus safe wintering is the rule, and not the exception. Any disregard, evasion, or violation of these laws, will endanger the lives of the bees.

Let us now look at the difference between the natural and improved hives, now in general use. The standard size of the improved hives, contains two thousand cubic inches, which is less than one foot and a quarter, cubic measure. This hive if filled with frames of combs full of brood and honey, will occupy two-thirds of the space, except the half-inch under the frames: and now if you put in a common swarm of bees, of twenty or thirty thousand, that is from four to six quarts of bees, the hive must be nearly or quite full, except the half-inch space under the frames. Now as I said before, a bee-hive cannot hold itself twice full at the same time. It is also a conductor of heat and cold, but not of air; and when cold weather comes on, and the bees are all confined within the hive, this very small amount of air, for so many bees, must soon, become very moist from the breath of the bees; and if the air, outside of the hive is moderated by beehouse, cellar, or other contrivances, and is too warm, the pressure at the entrance will not be sufficient to force into the hive sufficient air to abate the moisture, and the poor wet bees sweat it out, as best they can. For this moisture cannot be abated with quilts and absorbents, so long as the bees have the breath of life in them, any more than the moisture from a kettle of boiling water in a hot stove, can be abated by lining the room with absorbents. The absorbents only keep the moisture from increasing and condensing, but cannot abate it, so long as there is water in the kettle, and fire in the stove. "Upward ventilation will do it," many are ready to exclaim. Upward ventilation is better than no ventilation, but is unnatural, as the bees have been created with fickle natures, and erring instincts. Ventilation at the bottom is unsafe in the improved hives, because the dead bees are almost sure to fall down and close the entrance; and the bees must have ventilation somewhere. But the bees are tough little fellows, and can stand a good deal of wet, if warm, and a good deal of cold, when dry; but like other creatures, they cannot stand wet and cold both at the same time. If the air is too cold on the outside of the hive, the pressure at the entrance is great, and the air is pressed into the hive with great force, and the circulation becomes rapid, the power of the bees to keep up the necessary heat is lessened, the hive is cooled, and the moisture condenses and falls back on the bees, like dew to the ground when the sun goes down; the quilt and absorbents have lost their power, and their utility is destroyed. Now the poor wet bees will have the dysentery in two minutes after they become chilled; and will fall down, and as there is but a half inch space below the frames, this space is soon filled up, and they lodge between the combs, the combs are already wet with moisture and filled with dead bees, the combs soon begin to mould, and the dead bees to decompose, and the moisture increases. There is now an absolute necessity for a good bee doctor to know what's the matter; and to know how to get into the hive, the right quantity of pure air, of the right temperature, and to force out the bad air.

"Too much honey" exclaims lots of bee-keepers. This is not the cause but the effect. Take out two or three frames of honey, and put in boards that will exactly fill the place of the frames taken out, and the effect will be the same. It is not less honey, but more air, that the bees need; and it requires great experience and skilful management, to so winter a hive of bees, with a few cubic inches of air, that, *safe* wintering will be the rule, and not the exception. While here in this cold latitude of forty-five degrees north, bees are suspended in their natural hive, from twenty to fifty feet in the air, and swayed about all winter by the winter winds, enough to make a sailor seasick, yet these bees put in their appearance all right in the spring. This is the rule, and not the exception. How to improve the improved hives is the question. As it is hardly an invention, but as the old woman said, a nice contrivance; I shall not apply for a patent, and any one who wishes can easily apply it, to any kind of hive.

Make a tight box that will just fit the outside of the hive, set an inch post in each inside corner of the box, an inch shorter than the depth of the box; place the hive without a bottom on these posts, the box will now close the entrance; make it all tight as possible between the box and the hive, and make the ventilation two or three inches from the bottom of the box. The hive will now contain four or five times as much air as it did without the box, and if put in any building sufficiently comfortable for horses or cattle according to the amount of animal life it contains, with a sufficiency of pure air, is warm enough for bees. A bee house or cellar that is only large enough to hold twenty hives of bees with a sufficiency of pure air, should not be made to contain fifty hives; any more than a stable sufficient for ten horses or cattle, should have twenty crowded in. In the spring when the bees are set out, saw a pole about six inches square in the bottom board of the hives, and tack a piece of wire cloth on, and place it on the box for their summer stand, close the ventilation in the box until the weather becomes warm, and the bees need no more air than is given at the entrance.

Very Respectfully yours,
ISAAC ANDRUS.
Faribault, Rice Co., Minn., April 1873.

[For the American Bee Journal]

To the Persecuted Bee-Keeper.

Mr. James Wedden seems to be having about the same trouble as a bee-keeper in Wenham did, six years ago. Mr. John Gould, who lived in this town, had about sixty hives of bees. For several years his bees had not stored much honey in boxes; in other words, did otn pay. I well remember that two seasons before the trouble commenced, his bees, forty-five stocks, did not gather an ounce of honey more than they consumed from day to day, during the whole season. That fall he purchased several barrels of heavy and granulated sugar and fed them, and the following spring they came out lively. The honey harvest commenced and we had the best we ever knew here, and Mr. Gould's bees did do remarkably well, about one ton of very nice surplus honey was received and sold at a fair price, netting to Mr. Gould not far from five or six hundred dollars. His success was soon known about town, and then commenced the trouble. The bees were a nuisance; no one could get much fruit, and what they did get was sour and poor stuff, as the bees sucked all the honey out of the blossoms.

I don't like to expose the ignorance of our neighbors, but such is the fact.

Some were afraid they would be stung to death if they ventured near Mr. Gould's house, and had an idea that it was not safe to go where they had traveled for years before, where Mr. G. had kept bees for the fifteen years previous. A town meeting was called and a vote passed requesting Mr. Gould to remove his bees. Well, Mr. Gould did leave town, bees and all; not because of any vote of the town, but because his malicious neighbors were determined to ruin his apiary, a thing they could do. One man killed nearly a bushel of bees one day, but I won't say how it was done, as some scoundrel might adopt the same plan who happened to read this article. The vote of the town amounted to nothing if the opinion of legal gentlemen was worth anything.

In our opinion Mr. Wedden cannot be compelled to remove his bees out of his yard unless it can be proved beyond a doubt that his bees are a nuisance; a thing not easily accomplished, for it would be very hard for any one to swear to Mr. Wedden's bees, if there are others kept in the town.

Mr. Gould removed from Wenham six years ago, and the fact that there has not been a large crop of fruit since then, as there was before the bees were removed, is enough to satisfy any reasonable man that the bees were a benefit instead of a damage to the fruit crop, and those fellows who kicked up so much fuss, feel kind of cheap about it when the thing is mentioned.

Our advice to Mr. Wedden is, not to take any notice of what is said about it, and it soon will blow over. You need not fear a "law-suit," as nothing can be done about it until they can prove that they are your bees doing the mischief. H. ALLEY.

Wenham, Mass.

[For the American Bee Journal.]

Judicious Feeding.

Although it may be deemed of first importance to impress upon the mind of the bee keeper the necessity of proper feeding in the fall, when honey is scarce, in order to bring his stocks successfully through the winter, it is of but little less importance to feed in the spring to induce an excess of early brood that each colony may be made strong in numerical force to avail themselves of the honey harvest in store for them. The most skeptical will have but once to try the experiment to be convinced of its satisfying results. Let one take two colonies, equally strong in every respect, and standing side by side, feed the one, and let the other gather from the fields. In the one case he will receive four-fold for his outlay and trouble, while in the other the stock will have only reached a proper working force when the blossom has ceased to yield its nectar, and claims his most careful attention to enable it to safely pass the rigors of a severe winter.

Did it ever occur to our friends who complain of cross bees that they could educate them to behave themselves? Try it once; and every time you find it necessary to disturb them offer them some food, and mark in a short time the change in their conduct to the hand which feeds them. Whenever they get a puff of smoke, or feel a gentle jar of their home, observe how they will wait for their expected return of food, and as eagerly devour it as did one of my colonies a days since, quick to resent the indignity of a Brahma pullet insisting to build her nest on top of the open frames of their hive, from which I had removed the honey boards and left them exposed to the sun; even after this they showed no resentment towards myself. I have no cross colonies; and were I so unfortunate as to get one, I doubt not but that I could teach it better manners than to resent any experiment I might choose to make.

Although, Mr. Editor, it may be a digression from the caption of this article, I cannot refrain from saying that I have been greatly pleased with your careful selections for the JOURNAL since it has passed under your hand, and I feel that each correspondent should be duly grateful towards you, that if he has been guilty of any false teachings, or has stated any erroneous or impracticable experiments, it has been carefully pruned from his manuscript, otherwise how much loss might be entailed, or how much profit swallowed up! You, Mr. Editor, have been duly chosen umpire, and to you we look that that which is impracticable or useless shall not appear in the columns of the A. B. J., how else can we look upon it as we are wont to do, as our sure guide to success in the science we so dearly love? Prune off then, all the useless branches; cut away all worthless sprouts, and, just while your hand is in, if this hasty sketch fails to suit your purpose, burn it up! I assume it will prove no offence to an ardent admirer of the "B."

Beaver, Pa., May 8, 1873.

How to Rob Bee-Hives.

A soldier arrived from Savannah, who was through with Sherman, tells of the trip, as reported in the Dayton *Journal:*

The boys learned how to rob bee-hives without the penalty of stinging. The plan was, to rapidly approach a hive, take it up suddenly, and, hoisting it upon the shoulder, with the open end behind, run like thunder. The bees hustle out and fly back to the place where the hive stood. The honey belongs to the boys who win it. A cavalry lieutenant, with his squad, rode up to a plantation house one day and were pretty crabbedly received by the girls of the house, who desired to know "Why in thunder you 'uns can't let we 'uns be?" and hoped the devil would get the Yanks. The lieutenant was not very well pleased with his reception, and seeing some tempting looking hives of honey in the yard, he ordered one of his men to hoist one up to him. The hive was handed up in a jiffy, and the lieutenant, bidding the gals good-bye, started off with the hive on his shoulder. But the bees came out the wrong way, and swarmed upon the lieutenant and his horse, compelling the former to drop the hive, while the taunting Rebel females on the porch clapped their dainty, tiny hands, stamped their little bare feet, and screamed "goody! goody!! goody!!!" until they cried for joy.

[For the American Bee Journal.]

Sending Queens by Mail.

For the past four years we have paid letter-postage on all the queens we have sent by mail. Nevertheless, in our opinion, they should go in the mails at the same rates as seeds, etc., do. We wrote Mr. Wagner (late editor), and requested him to call and see the Postmaster-General. He called, but saw only the third or fourth assistant, or some other understrapper, who seemed to think it was his business to run the Government. I don't remember now what Mr. Wagner said to him, but I do remember that the person he talked with remarked, that if he had much more trouble about sending bees through the mails that he would make an effort to have them excluded from the mails.

Last fall the Postmaster at Salem, Mass., received a notice from the Postmaster-General, that bees were not mailable matter; so I judge that some one has made this high worthy more trouble, hence the decision.

I find no fault with letter-postage as I can, by sending three or four in one package, get them through for about three cents each. Sending queens by mail must be a source of considerable revenue to the Government, as my postage-bill has been as high as $100 some years. We think the only way to remedy the evil will be to petition Congress. Let some man, interested in each congressional district, write his representative in Congress; if that won't do let a petition go from every county in the United States to Congress, as soon as that body meets next fall.

I have written Hon. B. F. Butler, our representative from this district, and sent him one of my mailing-cages and requested him to call and see the Postmaster-General. I never expected to hear from it when I wrote, as I am not much of a politician; that makes a great difference you know. H. Alley.

[For the American Bee Journal.]

What I Saw last June.

Mr Editor:—As the great volume of knowledge of the science of apiculture of which the world is in possession, has been built up of gleanings, we offer our mite, hoping that it is new. It is this: Last June, while sitting in front of a hive of bees, observing them industriously at work, suddenly the bees commenced to swarm. I was within two feet of the entrance of the hive at the time, and held my position, although the atmosphere became so full of bees I did not open my mouth lest I should inhale some of them, my object was to take notes.

After about one-third or one-half of the swarm had issued, the Queen made her appearance *from within the hive*, but did not take wing. Her object appeared to be to hasten and superintend their exit, as she would suddenly jump upon a worker's back and shake her violently, and then pounce upon another in the same manner, saying, by her actions, "hurry up or you will be too late." She continued this until the major part were on the wing, when she took flight. While engaged in these queer movements, she would frequently run into the hive and out again, exhibiting great solicitude.

Hamilton, Hancock Co., Ill. E. W. Winans.

[For the American Bee Journal.

The February Journal.

Mr. Editor: The February number of your valuable Bee Journal has never reached me, it is lost. I trust some lucky fellow will find it and forthwith subscribe for it, thereby making a clear gain of one new subscriber. You will please send me the missing number if it is in your power, as I intend to have the volumn bound, and doubtless I shall have a very good book on bee keeping. If it was not for the lost of No. 8, present volumn of A. B. J., I should not trouble you with this scribble as I have but little that would likely interest your readers, nevertheless as I have to pay Uncle Sam three cents to carry my envelope, I shall send no blank paper, and you can dispose of it according to your own judgment.

Bees have come through the winter very well, in this locality, I hear no complaint. Swarming has set in, in earnest, those with many stands, or hives, or gums, think they will lose their *crop* if they miss much time with the bees.

I have read much in reference to two ways of bee-keeping, one with the hollow logs sawed up to hive in, fire and brimstone to take the honey with, and a good set of jaw teeth to extract with. Another with movable frames, boxes for surplus honey, with traps, queen cages, veils, gloves, bed quilts, undersheets, pillow cases, knives, stillyards, extractors, bee charms, and I don't know what. But one very popular way of bee keeping in these diggings I read of, but very little, possibly, from the fact that the votaries of the system don't see proper to write. The plan is to put out what they call bee bait, get them, (the bees) to sucking; get the course. The bees make off, then travel head erect and eyes aloft until the treasure is found, then with the *axe ground or unground*, you have what they call a bee cutting. You had better believe they make a smashing business of it. So I think this might be set down as the *third* way of bee keeping. I lately saw a circular which was sent out by some party in New York, offering to send a recipe by which a man could make any quantity of honey at little cost, say seven cents per pound. If this be true may not bee keepers take down their signs and stop the business, or call it another, or *fourth* way of bee keeping. I shall not send on for the recipe as the price is two dollars and the material will cost seven cents per pound, and nice honey in the comb could be bought in our market (Montgomery Alabama,) last summer for seven cents per pound.

Yours, W. E. Freeman.

Olustee Creek, Alabama, May 1, 1873.

The Origin of the Honey Bee.

BY D. L. ADAIR.

The law of variations and selection by which I propose to improve the honey bee, has of late been given a more extended meaning, and from it has been deduced the doctrine of evolution, whose fundamental conception, as stated by one of its advocates is, "That the heavens as they appear above us, the earth as it exists beneath us, the hosts of living creatures that occupy it, and humanity as we now know it are merely the final terms in an immense series of changes, which have been brought about in the course of immeasurable time." The evolutionists say, that a time existed when there was no life on the earth, thus there was a period when life only existed in the lowest forms, then higher and higher kinds until the highest, as we know it now, appeared, and that the changes are still going on.

It is not necessary for our purpose to investigate the soundness of the theory thus advanced. It will be sufficient for us to inquire what was probably the original type and condition of the honey bee, and to assume that at some time there was a single primitive pair, as we are taught in the Mosaic history of the creation. It is difficult however for us to conceive, with our present knowledge of the bee only existing in large communities, how a queen and a drone, without the assistance of the workers could have maintained life. A queen, as we know her now, would be helpless, and a drone of no assistance, for neither of them could elaborate wax, or if they could, would be able to build it into cells, to cradle the young; nor could they, if they would, feed and nurse them. But it must be recollected, that we are going upon the hypothesis that the condition of the bee of to day is the result of changes in habits, capabilities, and instincts. The first pair of sheep did not constitute a herd, nor did the first human pair form a community.

The original home of the bee was no doubt tropical. It, as well as man and all animal life, was placed where the climate and all of the surroundings were favorable; but we will have to suppose that the first female bee had capacities that she has not now: that she could build the comb cells in which she deposited her first eggs. This was not impossible, for have we not the same thing repeated every year, by the solitary female of the Humble bee, (*Bombus*) and by the Hornet (*Vespa.*) and by a number of other species of hymenopterous insects?

The female Humble bee, collects the pollen and honey, and constructs the cells for the occupancy of her first brood in the spring. After the first brood, composed of workers, comes out, *she* ceases to provide for any more brood, as the young bees do it, and confines herself to the laying of eggs as does the queen of the honeybees.

The Paper-Wasp, (*Vespa*) not only builds the first cells, but according to Waterhouse, they are built of silk, like threads, that are no doubt secretions from the insect, as is the wax of the honey bee.

So we see that nearly related species are actually now capable of performing all that would have been required of the solitary female honey bee.

We may reasonably suppose that the primitive honey bees did not inhabit cavities, or hives, as in the tropics they are not necessary to their existence. Some of the existing varieties, in the Malayan Islands, as *Apis testacea*, which is found in the Island of Borneo, build their comb on the under side of the limbs of lofty trees, with no other protection than the crust of bees that surround it, and it is not rare for our domestic bee *Apis melifica* to do the same thing, while it is the regular habit of several species of *Melipona.*

A colony of bees is perfect without any hive. In a natural cluster it is the office of a part of the bees, (the oldest) to form a crust around the comb structure; a habit they persist in although they are placed in a tight hive; as by no other means could they maintain the uniform, equible temperature and state of dryness necessary to the well being of the eggs and larva. They recognize no territory as in their possession, that is outside of the cluster.

It is not likely that the first bees either stored honey, or lived in large communities, as they do now, for there was no necessity for it. The storing instinct, came when they had multiplied and spread out of these natural habital, when climate compelled them to resort to the protection of hollow trees, and they no longer had the continuous honey harvest of their native Eden.

Up to this time it is likely that all the females were perfect, and that they had the capacity for both ovipositing and working. The worker bee could easily be the result of conditions that imposed greater labor upon them and developed other organs at the expense of those of generation.

We have seen that animals and vegetables may vary, so as to produce distinct breeds or races, as in the case of the wild turkey, the potato and all of our domestic animals. But it can be seen that unless those variations could be transmitted by way of generation, individual aberration could have no effect in establishing new characteristics or developing new instincts. Observation teaches us that there is such a law, by which accidental eccentricities whether improvements or defects are fixed on the off spring.

There is another law governing variation, which may be called the law of progress; or as the evolutionist names it the law of natural selection. It is simply this, that all living things in the struggle for life are improved. The strongest overcome the weak, and destroy them, and bequeath to their descendants their strength. When subjected to new and unfavorable conditions only such as are adapted or can adapt themselves to them survive; and those that can survive, in a little while take on new characteristics, new habits and instincts. If this were not the case the human family could not have peopled the earth, and the honey bee would still be confined to the perpetual summer of the tropics.

We have seen that it was perhaps as true of the primitive bee as of man, that there was but a single pair, with power of increasing in that condition. From that we infer that it was placed in the tropics, and as there was no necessity for a hive, like man it had no house. We have concluded that it did not store honey, as there was no winter to provide for, and for the same reason they did not live in large communities and the imperfect female, the worker, did not exist.

As they increased and spread they were soon brought in contact with the new conditions of climate and food. Now, had the laws of their being been so rigid as to allow of no change, these would have been a barrier to their further progress But when they encountered frost that destroyed the flowers, and chilled them, none survived but those that had a colony large enough to form a cluster, and food enough to live on till it passed, and even those were killed that did not happen to have their nest in sheltered places.* The result was that the social instinct was developed, and also the storing instinct, and the habit of seeking cavities in trees and rocks for a home, and in proportion as these instincts were increased they spread further into the temperate zones.

The female bees, that had until now not only the power to lay eggs, but to gather the food and nurse the young, soon felt the influence of the new order of things. Nature compelled the mass of them to forego maternity, as inconsistent with their duties as laborers. The storing instinct and the necessity for the nest being compact, induced a change in the comb structures. From having a single sheet of comb hung to the limb of a tree; as *Apis testacea* of Borneo still has, they were compelled when they resorted to cavities, to build several parallel sheets, so close together that the interspaces would only admit the bees on each to pass over their surfaces, without their backs interfering. This new arrangement produced a marked effect on the whole population. There was no longer room to build the cells of a sufficient length to allow a full length bee to mature in them, the result of which was the imperfect, or worker, female was produced.

It may be objected to this theory, that the cells might be made deep enough; but to do so would prevent the queen from depositing eggs in them in the normal position, for she could not lay in the cells if they were longer than her abdomen, and when queens are produced the cell has to be lengthened out after the egg is laid.

By this shortening of the bees there is not room for the full developement of the ovaries; these organs are partly aborted, and only in very rare instances are they capable of laying eggs, which being unfecundated, only produce male bees. In the degeneracy of the sexual instincts, the storing instinct is strengthened, and the social condition of the colony is perfected.

Entomologists tell us that there are about two thousand species of *Apiarœ* (bees). How many of them are mere deviations from the same primitive type that produced our honey bee, we have no means of ascertaining. Of the honey bee proper (Apis,) there are but a limited number of distinct kinds. Whether there is properly more than one species naturalists have not determined. So far as I have seen any evidence, there is nothing to prove that they are not all of the same species, but in their diffusion over the earth they have met with different conditions, that have caused variations in color, size and other peculiarities, and they are but races, varieties or variations.

The Italian, the Egyptian and the common black bee have been considered different species, but when tested by the law of cross breeding, they prove not to be so. The recognized law of cross breeding is this. When the union of two *species* takes place, the offspring is a *hybrid*, and is sterile, or if they can reproduce at all the power is extinguished in the third or fourth generation. Such is not the case with the kinds I have named. They have been crossed repeatedly upon each other, without any such results. No *hybrid* has been produced. On the contrary the union of different varieties or races produces a fertile offspring, or as it is called a *mongrel*, which is often more fertile than either of the original varieties, or races.

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* In the beginning we are told that "the Lord God had not caused it to rain on the earth" but that "there went up a mist, and watered the whole face of the ground." And from then to the deluge, a period of nearly two thousand years, no mention is made of a change in the order of things, or of rain: and hence there is room for conjecture that rain had not fell on the antedeluvian world. Until then, per chance, no cloud had vailed the sun, no thunder had shaken their coast, or lightning played on the gathering storm. (LATTA, IN CHAIN OF SACRED WONDERS). This conjecture is further strengthened by the fact that the rainbow, which is the result of known fixed laws of nature, and depends for its existence on the action of the suns rays on clouds or falling rain, was unknown until then. "I do set my bow in the cloud, etc." (Gen. 9:13.)

THE AMERICAN BEE JOURNAL.

Chicago, June, 1873.

Volume Nine.

We would remind the readers and friends of THE AMERICAN BEE JOURNAL that next number commences a new volume, and that it is now a favorable time to pay up old scores, renew subscriptions, and canvass for an increased circulation. It is not a pleasant thing for an independent mind to ask help of any sort, and especially help of the pecuniary sort, but we feel that inasmuch as this journal is carried on in the interest of the bee-keepers of North America, we have a claim on their co-operation, and as our prosperity is virtually theirs, they will, in aiding us, be in reality benefitting themselves. The great fatality among bees during the past winter has led many to give up keeping bees, and taking bee journals, it is therefore the more important that all who have faith in apiculture as a great industrial interest, or even take pleasure in it as a scientific recreation, should do all in their power to help forward a periodical which has done, and is doing, more than any other on this continent for the development of this useful and entertaining pursuit. We cannot be too thankful to many who have been and are exerting themselves to the utmost in extending the circulation of this journal. To each one of our readers we beg to say, " Go thou and do likewise."

Back Volumes and Numbers.

Mr. George S. Wagner, having desired to be relieved of the correspondence and mailing, connected with applications for back volumes for the AMERICAN BEE JOURNAL, we have obtained from him the entire stock, and they are now on hand, completely arranged, in our office. We can offer but a *single complete set* for sale, and for this we ask twenty-five dollars, delivered at the express office. Of Vol. I. we have a large supply, and therefore offer it at the low price of one dollar, sent by mail and post paid. This volume is worth five times its price to any intelligent bee-keeper. It contains a full elucidation of scientific bee-keeping, including the best statement extant, of the celebrated Dzierzon theory. These articles run through eight numbers, and are from the pen of the Baron of Berlepsch. We can furnish a few sets of Vols. II. and VI, with the exception of a single number in each, which is missing. Of Vols. III, IV, V, and VII, we can supply a few complete sets, while of the current volume, VIII, we have still quite a number on hand. Ordinary back volumes will be sent on receipt of $1.50 per vol., and single numbers at twenty cents each. Any numbers that fail to reach subscribers by fault of mail, we are at all times ready to send, on application, free of charge.

Beginners in bee-culture, who desire to read up in the literature of bee-keeping, are earnestly advised to obtain the back volumes now offered. We will send the entire set, which as above explained, will be deficient about three numbers only, and will include the current volume, on receipt of ten dollars, delivering them at the Express office in this city.

The Great Patent Suit.

We learn from Mr. H. C. Cowan, son-in-law to Mr. Langstroth, that the suit of Otis *vs.* King has been set for hearing on the 10th day of June (present month,)

Mr. King on "Mrs. Tupper's Loss."

The May number of the *Bee-keeper's Journal* contains an apologetic and explanatory article, headed " Mrs. Tupper's loss." All of it that is of any concern to us is comprised in the first part of it, which is as follows :

> "Through inadvertence the first proofs of the article in our April number, concerning Mrs. Tupper's loss of bees by fire, contained an error which has furnished one of our contemporaries with material for an unfavorable notice, injurious to Mrs. Tupper, and prejudicial to our own interests.
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> " By turning to the article our readers will see that we spoke of Mrs. Tupper as the *woman* who had done more for apiculture than any other. In the proofs sent to the press it reads the *one*, instead of the *woman*. We were represented as claiming that Mrs. Tupper had done more for apiculture than Huber, Berlepsch, Langstroth, Quinby and others. We did not intend to make such an assertion, as our own vanity would forbid, if nothing else.
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> "Our object in sending the advance proofs to publishers, was to secure a notice for Mrs. Tupper's benefit. We did not ask any one to publish the article entire, but we believed that Mrs. Tupper deserved a favorable notice and needed help, and we have had no cause to change our opinion since. She wrote to us that there was

some insurance, but not enough if all was paid, to liquidate the pressing debts incurred last year, and she would be left without the means to purchase bees again. She has since informed us that the insurance was all paid, but was $1,000 less than the amount she had to pay her late partner for her half interest in the business. She adds, 'I must begin again where I was ten years ago.' We had no thoughts of saying anything to injure any one, or afford an occasion for personal strife, which has so long cursed the cause of bee-culture in America."

The apology for exalting Mrs. Tupper above all other apiarian celebrities, is, it must be confessed, a very lame one, and those who think it sufficient are certainly not hard to please. "Inadvertence" is a poor excuse for the editor of a monthly journal to set up; and as for the statement, "we did not intend to make such an assertion," all we can say is, that it was of course written and revised in manuscript before going to press, and read after it was in print, and how all this can be harmonized, is past our comprehension. But this is only a minor matter.

The grave part of our complaint was and is, that there was an attempt to hood-wink and deceive the bee-keeping public in the appeal made on behalf of Mrs. Tupper. Mr. King now says Mrs. T. informed him at the start that there was "some insurance," but not enough, forsooth, "to liquidate the pressing debts incurred last year.' This is a very different affair from its not being enough to make up the "actual loss," to which we referred in our remarks on the case. Now Mr. King says: "She has since informed us that the insurance was all paid, but was $1,000 less than the amount she had to pay her late partner for her half interest in the business." If we are not misinformed, the insurance was $2,400 or thereabouts; add $1,000 and you have $3,400. Well, either the Italian Bee Company was doing a spanking business, or Mrs. T.'s "late partner" sold out remarkably well. But that's not the point in dispute. The question is, whether we were justified in declining to publish and endorse the appeal sent out by Mr. King, and in putting the bee keepers of the country on their guard in reference to it. We maintain that we were, and that we should have been guilty of a gross dereliction of duty had we not done so. We have investigated this matter pretty thoroughly, *on the spot*, since our last issue, and the result has been thoroughly to confirm the positions then taken by us; that the fire was a gain rather than a loss, that the insurance was a far larger sum than any intelligent bee-keeper would have given for the bees, and that the sending forth of an appeal for sympathy and aid, was, under the circumstances, an act deserving universal condemnation.

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[For the American Bee Journal.]

Who is to Blame?

THE TRANSACTIONS OF THE NATIONAL SOCIETY.

MR. EDITOR.—As much has been said about the report of the N. A. Bee-keepers Society being delayed, and I have been mixed up with it, I wish to make a statement of all I know about it.

The Society adjourned at noon on the 6th of December. I went to Louisville that night and took the first boat for home next day, where I arrived on the 8th. I sat down and made out the report from my notes. I finished it and corrected it in two days, and mailed it to H. A. King on the morning of the 11th, and wrote to him on that day that I had done so. Here my responsibility ceased.

On the 23d of December I received the following letter from Mr. King, dated December 19th, and post-marked New York, December 19th. 3 P. M.:

GEN. D. L. ADAIR.—*Dear Friend*—Yours of 11th was received yesterday, the day I reached my office from the west. The report has not yet arrived. I expected it early last week, and my associates at the office waited as long as they could keep the printers busy, and then gave up printing the report in our January number, and when I arrived I found the paper nearly ready for press, many of the pages made up, and most all of my type set up, so that it will be impossible for me to set it up for two or three weeks; hence, I conclude that I had better write to the different Bee Journals and state the facts, and when the report arrives have a clerk take a copy and return the original to you. I think you had better send proofs of your abbreviated report to all the papers at once. Please send us a proof.

I feared you would meet with this delay if you went home before completing the report. It should have been completed at Indianapolis and sent per express to the office where the proofs were to be made.

I have three papers—monthlies—and only hands and type enough to print one at a time; hence, I cannot wait many days for copy without throwing all behind. I think it would have been too late for the other journals even if we could have waited, hence, it will be better that it should not appear in my Journals for January, but all wait until February number.

Yours as ever,
H. A. KING.

I heard nothing further from the report until I saw in one of his papers that he had given the MSS. to Mr. Clarke, to be published in the January number of the *American Bee Journal*. Mr. Clarke writes me that he was in New York and got it from Mr. King, either on the 19th or 20th of December, the date of the letter Mr. King wrote to me.

Mr. A. F. Moon wrote to me, inquiring about the report, and I answered him substantially as above, except that I was not then aware of the transfer to Mr. Clarke. Mr. Moon published a part of my letter. I received a letter from Mr. King, dated January 30th, complaining of what Mr. Moon published of my letter, in which he says:

You ought to have Mr. Moon correct the impressions he gave by publishing your letter about the delay of the report in reaching him. Mr. Clarke took your letter and ought to have written the editors of the different Bee Journals, and sent them and you the proofs you asked for. It was on that condition I gave it up to him. I was not in the slightest degree blamable for the delay, and do not propose to be imposed on by such misrepresentations.

Yours respectfully, H. A. KING.

After I mailed the full report to Mr. King, I wrote out another shorter or abbreviated report, and on the 14th I sent it by mail to the *Southern Agriculturist*, in the January number of which it was published in full. Major Key, the editor and publisher, sent me fifty proofs, which I mailed to as many agricultural papers. Shortly afterwards Mr. Clarke sent me 100 proof copies, eighty of which I mailed to other papers I wrote a separate letter to each paper to which I sent a copy, drawing their attention to it and soliciting its publication in whole or in part, or a favorable notice. A large number of them published selections from it; some published the condensed report entire, and all that I saw gave the Society complimentary notices, and many of the editors wrote me letters of inquiry or for further information.

I do not write this to reflect on any one, but to defend myself from the charge of "*misrepresentation*," as Mr. King is pleased to call my letter to Mr. Moon. What I undertook I performed as promptly as was consistent with accuracy. Mr. King wrote to me on the 19th that he had not received the MSS., but when called on on that day, or the next, he did have it, and there was still eleven or twelve days in which to set up the type and print it, and all of the papers delayed their publication some time after that, waiting for it. He promised to set it up as soon as he received it, or I would not have sent it to him.

In the January number of his *Bee Keeper's Magazine* I find the following:

"We expected to present the report of the recent meeting of this Society in this number, *but it was over* two weeks after the Society adjourned before the report was received."

Now, the Society adjourned on the 6th, and *over* two weeks must have been fifteen days at least, and still we find him delivering the report to Mr. Clarke in thirteen or fourteen days. I quote further from the same paper:

"We expected to find it all in type when we arrived here (December 18th), but, instead, *nothing had been heard from it.*"

Let the reader look at the first paragraph in his letter of the 19th December, in which he says:

"Yours of 11th was *received yesterday, the day I reached my* office from the West."

He will not, certainly, deny that he "heard from it" in that letter, for it informed him that the report had been mailed to his address.

Mr. King accuses either me or Mr. Moon of "misrepresentations;" it is not clear which of us, but would it not look better in Mr. King, a minister of the gospel, to give correct statements, and not attempt to give the impression that I was the cause of the delay? Why could he not state the facts?

D. L. ADAIR.

Hawesville, Ky.

Reports, Experiences and Opinions.

Joshua Arter, of Crestline, Ohio, writes, under date of April 11, 1873:

"Bees wintered very well here on their natural stores. They had a flight on the 15th January, and 6th and 7th February. They did not get to fly much in March. On the 3rd of April they began to fly, and on the 5th they brought in natural pollen. I have not succeeded in getting them to carry in flour yet. I have tried every year as soon as they fly. In this locality they soon gather natural pollen, unless, I suppose there were to be a very early spring. I must say that the silver-hull buckwheat is the best for bees that I ever used. I raised the black variety, but the bees would not work on it, nor it would not yield much seed. I have raised a bushel and three pecks from a pound of silver-hull seed. While it is out in bloom there can scarcely a bee be found on any other flower till about ten o'clock on bright days. On cloudy days I have seen them swarm over the field till eleven o'clock. It keeps the bees breeding till frost, and the bees go into winter with any quantity of young bees. I have not lost a swarm in winter since I raised it."

Irving W. Cramer, of Oneida, Ill., writes, April 5th, 1873:

"Last autumn, I could count up about one hundred and fifty or one hundred and sixty stocks in our immediate vicinity, and now all I can count is about twenty-five, all this within a radius of about one and a half miles, and further out the losses are about the same. I had twenty-four last fall, and reduced by uniting to sixteen, and have only one left, and that the only Italian stock I had. I got a queen about the 10th of September from E. M. Johnson, of Mentor, Ohio, and I fed the stock after introducing the queen, about fifteen pounds coffee-sugar, and they strengthened up wonderfully and kept breeding until into December. I did not feed the others, and they stopped breeding before the 1st of October, on account of the scarcity of forage.

"We have had an unusually severe winter, but I do not think it was the winter that has destroyed our bees, but the previous summer; for there seemed to be no honey in the flowers except about two weeks in white clover season, and I think our bees quit breeding so early, that at the beginning of winter there were scarcely any young bees, and then the extreme coldness of the weather prevented their breeding. I think that if I had fed my stocks ten or fifteen pounds of sugar-syrup each in September and October, I might have saved nearly all of them. I have now over twenty empty hives, or hives without bees in them, for they are pretty well stocked with comb and some honey.

"A great many stocks have died here with from ten to sixty pounds of honey, and combs all clean. A few of mine died with the dysentery, but I think it was because the old bees, dying off, left the swarm so small that the cold weather gave them the disease.

"I found a small swarm to-day on a bush that had left somebody's hive, and I hived them in one of my hives which had plenty of honey, and they seemed all right; so I have two to start with again. I have also engaged one or two other stocks, and shall try and fill my hives again this season, if it is a good one. One man near here says, if he loses all he has now, he will knock down the first man that says "bee" to him. He had forty-five last fall, and now has only three or four, some of them having left their hives within the last few days, leaving plenty of honey. I am not discouraged, however, as I believe I know the causes of the loss and how to guard against it in the future, partially, anyhow. I am in hopes that we shall have a better season than we had last year."

J. F. Love, of Cornersville, Tenn., writes, April 21st, 1873:

"My bees are in as fine condition as you ever saw, considering the lateness of the season; two-story hives are filled with brood below, and four or five frames above."

T. A. Waite, of Morning Sun, Iowa, writes, April 24th, 1873:

"After the long, cold winter we have had, it is still snowing to-day, the 24th of April. This winter of 1872–3 has been the worst for wintering bees out of doors that we have had in Iowa for thirty years. I have traveled over Iowa considerably this spring, examining bees for information and instruction. From my own observations I have come to the following conclusions: 1. That over seventy-five (75) per cent. of the bees that were neglected on their summer stands in Iowa are dead, caused by severe protracted cold. So much frost accumulated that the bees became either damp or chilled, causing the dysentery, and a great many died of starvation with plenty of honey in the hive, because warm days enough did not occur for them to leave the cluster for food. Hence, the necessity for winter holes in the comb. 2. That all the bees that were left out till the last of December and then put in winter quarters where they suffered with cold and froze enough to freeze potatoes, are worse than those on the summer stands. 3. That all the bees that were put in a good dry cellar in November, before there was any weather severe enough to make them in a bad condition before putting in, have wintered successfully, where they had ample upward ventilation, and the cellar remained a few degrees above freezing point, and perfectly dark. 4. That most of the cellars in Iowa would have chilled to death any bees, put in on Mr. Hogmer's quart plan. What would have become of the thirty stands he put in the cellar with less than one pint each one winter? Can any one tell us? Can any one take less than half a pint or a pint after the middle of April, such a spring as this, and breed into a good swarm? I have had twelve years experience in bee-culture, with movable comb hives, and don't want any quart swarms in the fall, for winter, nor any with less than one pint in April."

Dear Journal.—I see from the "reports" that there has been, in some localities, almost as great fatality among the bees the past winter as in the winter of 1871–2. As mine did so much better the past winter than the previous one, I will "report" them by way of having a few more favorable reports, as well as so many unfavorable ones.

To go back a little—the fall of '71—I had thirty-five colonies. Being busily engaged in securing a crop of seventy-five tons of grapes, I did not examine my bees till quite late. I then found many of them weak in numbers, and a few with but little stores. It was too cold to unite them, so I decided to prepare a room in our basement-story and put one-half of them in it. Not to particularize, the result was that all but three put in the house died. Those three, badly diseased and greatly reduced, were only saved by taking into a warm room, giving clean combs and putting them on their summer stands. Eight out of seventeen left outside died, and only two that were not diseased. So, out of thirty-five colonies I had left, ten very weak ones, and two good strong ones. By making the strong ones furnish brood for the weak ones, I succeeded in building them all up to pretty fair colonies by the 1st of June. I built up one colony that did not have half a pint of bees, until it sent out the first swarm of the season, without doing any damage to the strong hive from which I supplied it. Having plenty of empty combs I secured over 1,000 pounds of honey and increased my stock to twenty-five. I should have said that nearly all the hives that died left plenty of honey.

Last fall I prepared these twenty-five hives on their summer stands, simply by covering frames with old clothes, quilts, wool and rags, in some instances leaving the honey-board on and covering it, with holes open, the same way. Thus prepared, I left them exposed to the cold and piercing storms of an unusually cold winter—thermometer on more than one occasion showing 18° and 20° below zero; while I sought a warmer in clime (in the South) to winter in.

I returned here on the 25th of April; found only two of my colonies dead; all others in fine condition; lots of bees, etc. Where some of the full, two-story hives had been compressed into one, with a large quantity of bees, they had nearly exhausted their stores, but I did not care anything for that. Did I not remove from them last fall the ten frames of the upper story, all full of honey? Now how easy to give them four or five of these full frames in exchange for their empty ones.

The spring has been very cold, rainy, and east winds prevailing, so that there has been but a few days up to this date (May 15th), when the bees could fiy out. Whenever they could go out they found pollen in abundance, and such loads they did bring in. If they had had a week's good weather at one time I think they would have filled every unoccupied cell with pollen. They have increased rapidly; have sealed drones, and in some instances queen cells started, and with a return of good weather will do their duty if do mine.

Yours truly,
Thaddeus Smith.
Point au Pelee Island, Ont.

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[For the American Bee Journal.]

Something More About Hives.

Well, "Mr. Novice," we have read a part of your article on page 241, May number A. B. J., and we notice that you were careful to give the $1 hive a puff. I must remind you and the readers of the Journal that Alley made no attack on you until you first attacked him. Still, one reading your article would understand that we first attacked "Novice." You inform us that your name is not "Hives." Well, we knew it, and that is much like some other information you gave us—something we already knew years ago. "Mr, Novice" intimates that one stock of bees have died in the Bay State Hive. If none have died in the $1 hive then we will drop that part of the subject.

No, sir; Mr. Alley won't follow Mr. King, and give away rights. We only intend to give rights to those who first purchased the B. S. hives of us, and did much to introduce them.

We will say once, again, that we never have mentioned the B. S. hive in the Journal, only when invited by the late Mr. Wagner to describe it; and when attacked by parties who have got one-dollar hives for sale, and other trash such as will make the purchaser abandon bee-keeping in disgust, in less than one year after he commences it.

What is the "simplicity" hive? Nothing more than the Langstroth hive made in a simpler form, a cheap style with a thousand and one useless fixings about it. I don't know what right he has to sell these hives in territory owned by parties who purchased of Mr. L. "Novice" pitched into all patent bee-hive venders, and, as he says in his last article in May Journal: "Our harmless little circular *will* spoil the sale of rights, and we meant it should." Now, the only good feature about that $1 is the movable frames, upon which there is a patent, and has been for more than twenty years—L. L. Langstroth, patentee. Does he tell the readers in his little circular that this is the case? Has he ever told the readers of the Journal that this is the case?

Take the frames from the "Simplicity" hive and how much better is it than any old box-hive?

Who should have the credit for all that is worth anything about that hive but Mr. Langstroth, the one who gets none of it from "Novice," to say the least?

We hope "Mr. Novice" has read B. J. B.'s article on page 245. B. J. B. has no interest whatever in the B. S. hive; all the hives he has got, of that kind, he bought and paid me the cash for, and he has had no pay except my thanks for what he has said concerning it in the Journal. B. J. B. is a good friend of ours, and what he said he considered his duty to do. "Mr. Novice" we promise not to mention the B. S. hive in the columns again, and we further say that you provoked this controversy, and that it is our opinion that all you have said was for the purpose of putting funds into your own pocket and not for the benefit of anyone. We really hope this will be the last time we shall feel compelled to defend ourselves from attacks in these columns. Say what you please about your own wares, we care not a fig about them, only let other people alone. "This great I am, and little you be," might be left out of the quarrel as well as not.

"Mr. Novice" give us some of those articles you used to during the first three years you began to write for the Journal. We used to read all of them, but for the past year we got sick of them—some time before you attacked us.

Wenham, Mass. H. Alley.

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Chicago Honey Market.

Honey is scarce in this market. Choice white comb is worth 30@35c; fair to good, 25@30c; extracted, choice white, 12@16c; fair to good, 10@12c; strained, 8@10c.

Beeswax, 32@33c.